9-2015

The Architecture of Nineteenth-Century Cuban Sugar Mills: Creole Power and African Resistance in Late Colonial Cuba

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THE ARCHITECTURE OF NINETEENTH-CENTURY CUBAN SUGAR MILLS: CREOLE POWER AND AFRICAN RESISTANCE IN LATE COLONIAL CUBA

by

LORENA TEZANOS TORAL

A dissertation submitted to the Graduate Faculty in Art History in partial fulfillment of the requirements for the degree of Doctor of Philosophy, The City University of New York

2015
This manuscript has been read and accepted for the Graduate Faculty in Art History in satisfaction of the dissertation requirement for the degree of Doctor of Philosophy.

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THE CITY UNIVERSITY OF NEW YORK
ABSTRACT

THE ARCHITECTURE OF NINETEENTH-CENTURY CUBAN SUGAR MILLS: CREOLE POWER AND AFRICAN RESISTANCE IN LATE COLONIAL CUBA

by

Lorena Tezanos Toral

Adviser: Professor Eloise Quiñones Keber

By the mid-nineteenth century, Cuba had become the world's leading sugar producer, providing about a third of the world's supply. As a result, sugar mills dominated the Cuban countryside, each one growing into a micro-town, with housing complexes (mansions for owners and slave barracks or bohios for workers), industrial facilities (mills and boiler houses), and adjoining buildings (kitchens, infirmaries, etc.), all organized around a central, open space, known as a batey. Owned by the Creole elite (New World offspring of Spanish settlers) and worked by African slaves, sugar mills became places of enslavement and subjugation as well as contact, interaction, and mestizaje.

My dissertation will provide the first comprehensive and in-depth study of the architecture of nineteenth-century Cuban sugar mills, with a twofold aim: first, to examine how the Creole sugar planters designed and manipulated the architectural forms and spaces to convey order, power, and affluence, and to enforce slavery and racial difference; second, to analyze how African slaves countered Creole power through violent forms of resistance (intentional fires, collective protests) as well as non-violent ones (preservation of native customs, beliefs, music and dance) that involved subversive and transformative uses of architectural spaces. A study of socio-spatial negotiation, this dissertation traces the process by
which an architectural setting designed for subjugation developed a distinctive architectural language.

The first chapter reconstructs the typical plantation scheme adopted by most Cuban planters in the early nineteenth century, analyzing how it combined earlier Spanish models with more contemporaneous Neoclassical ones. The second chapter analyzes the architecture of the industrial naves, along with the beautifully rendered nineteenth-century lithographs of Eduardo Laplante, in the context of the Creoles’ fascination with technology and mechanization. Chapter three explores the ways in which planters used architecture to enforce segregation, full visibility, and panoptic surveillance, while chapter four examines the development of a unique, distinctively Cuban architectural language, clearly manifested in the bohíos and casas de viviendas. The fifth and last chapter investigates how the slaves appropriated and transformed the architectural spaces to undermine Creole power and make their own condition more bearable.
PREFACE

Some of my most cherished childhood memories are the summer vacations spent with my family on the coffee plantation of my grandfather in the mountains of Barahona province in the Dominican Republic. The son of Spanish immigrants who fled during the Spanish Civil War, mi abuelo (my grandfather) dedicated his life to the cultivation and manufacture of coffee, and I still remember the spaces of the batey, the cultivated fields, the industrial facilities, and the wonderful hacienda. I also remember his passion for the “motherland” and his predilection for Spanish music, food, and culture. Although indirectly, this experience certainly guided my attraction to the plantation subject and its Spanish heritage.

The choosing of an architectural study comes as no surprise since I was trained as an architect during my undergraduate studies at the Universidad Iberoamericana (UNIBE), in Santo Domingo. My fascination with spaces, floor plans, and drawings are the result of those early years of my education. However, many have asked me, why Cuba? Beyond the fact that my in-laws are Cuban, I discovered Cuba’s impressive architectural patrimony when I researched a paper for professor Katherine Manthorne’s class on “Sugar Fortunes.” Her class mostly revolved around the subject of the artistic result of the manufacture and commerce of sugar on the nineteenth century and the consequent accumulation of several fortunes both in the Caribbean and the US. Looking for a topic for my paper, I came across the beautiful remnants of the Manaca Iznaga sugar mill in Trinidad —now a touristic site— and afterwards with the valuable books of Alicia García Santana. My fate was sealed when I had in my hands the mesmerizing lithographs of Eduardo Laplante and the astonishing 1857 book Los Ingenios, written by the planter Justo Germán Cantero. This art masterpiece, along with the many travel
narratives of American visitors to the *ingenios*, were material enough to start this research journey toward the “reconstruction” of Cuban nineteenth-century sugar mill architecture.

From those first moments on, this research has been filled with wonderful discoveries, arduous journeys, exciting excursions, and stimulating findings. On my trips to Cuba—an island until 2014 unknown to me—I had to explore intensely the countryside, going across sometimes deteriorated roads, asking the locals for directions, until finding the remnants of astonishing ruins or simple piles of stones. Most of these once majestic complexes with impressive mansions and huge installations are now in ruins or in terrible shape, longing for restoration and safeguarding. Cuban scholars such as Alberto Perret Ballester and Alicia García Santana have dedicated their lives to unveiling this patrimony. I hope my work can contribute to divulging the importance and monumentality of Cuban architectural patrimony, in this case the imposing architecture of nineteenth-century Cuban sugar mills.
ACKNOWLEDGMENTS

This research and all my graduate education would have not been possible without the guidance, funding, and help of many people and institutions.

First and foremost, I’m greatly grateful to my advisor Professor Eloise Quiñones Keber for her guidance and unwavering support all these years. I took my first class with Professor Quiñones Keber in 2007, and from that moment she not only wakened my interest in Colonial Latin American art and architecture, but also became my mentor to the academic world, guiding me through coursework, grant applications, dissertation proposals, and academic writing. Her insightful advice, research recommendations, and meticulous revisions have shaped my academic abilities and writing skills, while her constant support and encouragement have been extremely valuable and cherished.

My years at the Graduate Center were intellectually invigorating thanks to many professors who taught brilliant classes, guiding and forming my academic career. I especially appreciate Professor John Maciuika and Professor Anna Indych-López for their guidance and insightful comments from the early proposal stage of my dissertation until the final phases. Also, I am grateful to Professor Katherine Manthorne for her enlightening classes on Latin American colonial art, especially her class on “Sugar Fortunes” that motivated my first contact and research paper on Cuban ingenios. Also instrumental for this research was Professor Laird Bergad, director of the Center for Latin American, Caribbean, and Latino Studies at the Graduate Center, who inspired me to move forward on my research, sharing with me valuable material and advice, but most importantly for anecdotes regarding his own research experience and stay in Cuba when writing his book, Cuban Rural Society in the Nineteenth Century. His class on Latin American and Caribbean history revealed to me critical historical, social, and
economic studies regarding nineteenth-century Cuba that were instrumental for my thesis. Finally, I express my gratitude to Professor Edward Sullivan, from New York University, who served as my “outside” dissertation reader and whose recommendations and advice were incredibly relevant and useful.

This dissertation would have not been possible without the funding assistance of the CUNY Graduate Center MAGNET Dissertation Fellowship, a Doctoral Student Research Grant and the inaugural Colonial Latin American Review’s Travel Grant. With their financial aid I was able to undertake several research trips to Cuba and New York to perform fieldwork and visit libraries, archives and museums.

In Cuba, I had the crucial help of several persons. Particularly, I’m deeply grateful to Alicia García Santana, whose research and books have been indispensable for my dissertation, especially her work rescuing and unveiling the important architectural patrimony of Trinidad. I met Alicia on my second trip to Cuba and from the beginning she was willing to unconditionally support my work, dedicating hours of enlightening conversations and introducing me to very important persons, past and present, including the helpful personnel of the Archivo Nacional de Cuba (ANC) and the precious legacy of the nineteenth-century architect Pedro Celestino del Pandal, with his crucial and yet unpublished drawings and descriptions of several Matanzas sugar mills. In addition, I need to thank Yorlis Delgado López, legal adviser of the ANC and Jorge Macle, chief of the Drawing Division of the ANC, for all their assistance and guidance.

Special thanks are due to Braulio Alvarez Jaén who drove me throughout the Cuban countryside, patiently searching for abandoned and sometimes unrecognizable ruins of sugar mills. His anecdotes and lively conversations enlightened hours of road journeys, while his web
of acquaintances and charming personality opened many doors and much assistance. Also a special thanks for María Isabel Marrero (Maruchi) who kindly shared with me the photographic archive of her late husband Alberto Perret Ballester, author of the book *El Azúcar en Matanzas y sus dueños en La Habana*, an instrumental study for this dissertation. While in Cuba, I also had the candid and unconditional help of many anonymous people who contributed with directions to long-forgotten ruins or opened their doors, granting me private tours of their houses and properties, and sharing anecdotes about previous owners and the splendors of a bygone era.

A very special person accompanied me during my adventures in Cuba, searching for the ruins, measuring and photographically surveying them, and later drawing the numerous architectural floor plans, sections, and renderings: my father and also architect, Tomás Tezanos. His insightful architectural comments, his meticulous drawings, and above all his treasured company, meant the world to me, and gave me the necessary strength to accomplish so much in so little time in Cuba. Along with him, my mother, Marisol Toral, has been instrumental in my doctorate studies, emotionally supporting me every step of the way. My daughters, Daniela y Elena, were born during my PhD studies and became my inextricable companions, giving new meaning to my life and another reason to pursue my intellectual and academic dreams,—for this, thanks, thanks, thanks. I also want to thank my mother- and father-in-law, Manuel and Nelly Amador, for their constant support all these years.

And lastly, but most importantly, I dedicate this work to my husband, friend, and love, Felipe Amador. Thanks for encouraging me to follow my dreams of having a PhD, thanks for your instrumental help through applications and admission processes, thanks for proofreading my first papers, and thanks for those amusing mocking orals and exams. But above all thanks
for your unwavering support, your company, your love and patience, and especially your cheering and inspiring words every time I needed them. This road has been a shared enterprise from the beginning and this is “our” accomplishment. I love you.
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Arquitectura y Vivienda; Madrid: Agencia Española de Cooperación Internacional, 2003), 226.

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4.18 Main façade and floor plan Hacienda of Ingenio Engombe, Santo Domingo, Dominican Republic. Source: Báez Lopez-Penha and Pérez Montás, Restauración de antiguos monumentos, 95.


4.27 Casa de vivienda, Montserrate de Algaba sugar mill, Trinidad, Cuba. Source: Alicia García Santana, Trinidad de Cuba: Un don del cielo (Guatemala: Ediciones Polimita, 2010), 214.

4.28 Casa de vivienda, Las Cañas sugar mill, Matanzas, Cuba, 2014. Photo by author.

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4.72 a. Bohio with square plan; b. caney with rectangular plan, 16th century. Source: Captain Gonzalo Fernández de Oviedo y Valdés, Historia general y natural de las Indias: Islas y tierra-firme del mar océano (Asunción del Paraguay: Editorial Guaranía, 1944), 1: 293.


4.76 Eduardo Laplante, Ingenio Manaca Iznaga, Trinidad, Cuba, 1857. Detail of slave village with bohíos, conuco, and enclosing wooden fence. Source: Cantero and Laplante, Los ingenios, 224.


4.79 a. Houses with embarrado walls and tiled roofs, town of San Pedro, Trinidad, Cuba; b. close-up detail of embarrado wall with visible mud and rod net. Source: Alicia García
Santana, *Contrapunteo cubano del arco y el horcón* (Havana: Instituto Cubano del Libro, 1999), 102.

4.80 Bohíos, Manaca Iznaga sugar mill, Trinidad, Cuba, after renovation, 2014. Photos by author.


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GLOSSARY

Alfarjes (Spanish). Coffer ed ceilings.

Arcadas (Spanish). A series of arches, usually in a portico or gallery.

Apalancado (Spanish). Runaway slave living in a palenque.

Bagazo (Spanish). Cane stock after juice has been extracted, used for fuel.

Barrancón or barracón (Spanish). Slave quarters or barracks. A type of slave housing adopted in Cuban sugar mills, consisting of a system of cells organized around a central patio.

Batey (Taíno). An Indian word that refers to the central plaza in native Taíno villages. In a sugar mill, an open space or great plaza functioning as the center of the complex, surrounded by factories and other buildings.

Biombo (Spanish). Folding screen of Japanese origin.

Bohíos (Spanish). Slave huts in Cuban sugar mills made of wood, cane, or straw, and thatched roofs; direct descendants of Taíno houses. The term derives from the Indian word buhío (which means house).

Caballería (Spanish). Land area equal to 33.6 acres.

Casa de calderas (Spanish). The boiling house, a building where cane juice coming from the grinding mill was extracted, clarified, and concentrated.

Casa de criollitos (Spanish). Nurseries. Building where the slaves’ offspring (criollitos) were watched while their parents worked.

Casa de ingenio (Spanish). Milling house sheltering the steam-powered grinding mill.

Casa de purga (Spanish). Purging or curing house, a building where the last stage of sugar manufacture, the crystallizing and draining process, was effected.

Casa de vivienda (Spanish). Main house or house of an owner in Cuban sugar mills.

Cenefa (Spanish). Decorative wainscot-height bands painted on walls.

Central azucarero (Spanish). Central factory specializing in sugar production rather than cane growing, consisting of several buildings with iron structure and metallic siding and roofing.
Cepo (Spanish). Stocks. Enormous, fixed board with holes through which the head, hands, and feet of the delinquent slaves were fitted.

Cimarrón (Spanish). Runaway slave.

Contramayoral (Spanish). Enslaved blacks under the mayoral, who enforced labor and discipline.

Conuco (Spanish). Provision plots for slaves.

Criollos (Spanish). Cuban-born individuals of Spanish descent, usually titled noble families of Havana.

Criollitos (Spanish). Sons of slaves born on Cuban soil.

Embarrado walls (Spanish). Wall made of muddy mixture of soil, clay, water, and grass, covering a network of vertical and horizontal rods tied with lianas.

Guarapo (Spanish). Syrup extracted from sugar cane.

Guardapolvos (Spanish). Window canopy in the form of domes or flat bars.

Guardarrayas (Spanish). Roads traversing an estate and converging at the batey.

Guardieros (Spanish). Guards stationed in small huts at the entrance of sugar mills and acting as porters.

Grillete (Spanish). Shackles that varied from simple chains and padlocks attached to ankles or wrists to types attached to a large log.

Hacendado (Spanish). Land or property owner.

Horma (Spanish). Conical mold used to dry and drain crystallized sugar in the purging house.

Ingenio (Spanish). Sugar mill consisting of various plots of land and structures dedicated to sugar production, additional services, and housing.

Mampuesto walls or mampostería (Spanish). Walls made of stone, rubble, and lime-based mortar.

Maquinista (Spanish). Machinist or engineer in charge of a mill and its machinery.

Maestro de azúcar (Spanish). Chemist, or more accurately, cook in charge of “cooking” the sugar and determining the time and quantity of water or lime to reach perfect temperature.
Maestro de obras (Spanish). Highest-ranking builder in nineteenth-century Cuba, in charge of drawing plans and supervising construction.

Mayoral. (Spanish) Overseers in charge of supervising slaves, exacting labor, and enforcing discipline.

Mayordomo (Spanish). Bookkeeper who kept accounts and oversaw stores, produce, materials for labor, and provisions for consumption.

Mudéjar (Spanish). Style with medieval Arabic roots.

Mediopuntos (Spanish). Colored stained-glass fanlights set into round arch of window or door.

Mosaico hidráulico (Spanish). Colored concrete tiles.

Mulatos (Spanish). Persons of black and white ancestry.

Orisha (Spanish). African gods or spirits.

Palenque (Spanish). Community of runaway slaves.

Panopticon. Circular inspection house designed by Jeremy Bentham in 1786 and first published in 1791; it consists of a circular or annular structure with cells arranged at periphery of central inspection tower.

Patio house (Spanish). First schema of domestic architecture developed in Havana from the sixteenth century, in which the house turns inward, organizing all spaces around a small rectangular central patio with arched galleries along shorter sides.

Peninsular (Spanish). Native of Spain.

Persianas francesas (Spanish). Slatted French shutters.

Plaza de armas (Spanish). Main plaza in colonial Spanish American towns.

Portada (Spanish). Main façade of a building; monumental entrance.

Portal (Spanish). Portico or frontal gallery.

Potrero (Spanish). Stock-raising land or area.

Quinta (Spanish). Summer villas or urban palaces built outside cities set back from street, with frontal portico and surrounding gardens.

Rejas (Spanish). Iron grilles in doors and windows.
**Rejilla chair** (Spanish). Type of chair with straw-woven or wicker-work back.

**Sala** (Spanish). Living room or formal space used to receive visitors and showcase furniture and mural paintings.

**Santería** (Spanish). Cuban syncretic religion that combined West African and Roman Catholic beliefs.

**Santero or Santera** (Spanish). Priest or priestess of Santería.

**Tablero doors and windows** (Spanish). Style characterized by rhythmic repetition of 3 to 5 wooden boards.

**Taíno** (Spanish). Indigenous population of Caribbean islands when Spaniards arrived in the fifteenth century.

**Tambor** (Spanish). Drum.

**Tejar** (Spanish). Tile factory used for production of flat tiles and pottery.

**Trapiche** (Spanish). Primitive sugar mill, usually animal-powered.

**Tumbadero** (Spanish). Special flogging section in Cuban sugar mills.

**Vara** (Spanish). Old Spanish unit of length used widely in Latin America, varying from about 81 to 109 centimeters (32 to 43 inches).

**Vernacular.** Architecture made by people without training in design, using local materials, and responding to local environment, culture, and traditions.

**Volanta** (Spanish). Elegant, common carriage pulled by two horses in nineteenth-century Cuba.

**Yagua** (Spanish). Palm leaf used for thatching.

**Zafra** (Spanish). Harvest time lasting three to four months, beginning in January (or end of December) and ending in April (or May).
INTRODUCTION

By the beginning of the nineteenth century, Cuba had become the world's leading sugar producer, providing about a third of the world's supply.\(^1\) As a result, ingenios (sugar mills)\(^2\) proliferated throughout the Cuban countryside, each one growing into a micro-town with housing complexes (mansions for owners and slave barracks or bohíos for workers), industrial buildings (mills, boiling and purging houses), and adjoining buildings (kitchens, infirmaries, cemeteries, etc.), all organized around a central, open space or batey (see figs. 1.17 and 1.18).\(^3\)

Owned by the Creole elite (the offspring of Spanish families born in the New World) and worked by African slaves, sugar mills became places of enslavement and subjugation as well as contact, interaction, and mestizaje.

My dissertation constitutes the first comprehensive and in-depth study of the architecture of nineteenth-century Cuban sugar mills, with a twofold aim: first, to examine how the Creole sugar planters designed and manipulated the architectural spaces and forms to

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\(^1\) By the 1740s Saint-Domingue (French colony on the Caribbean island of Hispaniola from 1659 to 1804, today the Republic of Haiti) was the main supplier of the world's sugar. In 1789 Saint-Domingue produced 40 percent of the world's sugar imported by France and Britain. The colony was the most profitable possession of the French Empire. However, with the slave revolt of 1791, the plantation economy ceased to exist, and the French colonists and plantation owners were either slaughtered or fled to America (especially to Philadelphia, Baltimore, New York and Charleston), and to the Caribbean (Cuba and Jamaica). The slave revolt led to the founding of the independent Republic of Haiti. After the Haitian Revolution, Cuba replaced Saint-Domingue as the world's largest producer of sugar.

\(^2\) The word ingenio (sugar mill) is used to designate a collection of various plots of land and constructions dedicated to the production of sugar, additional services, and housing. Additionally, the word refers to the machinery, equipment, slaves and animals used in the production of sugar, honey and cane brandy. According to Alicia García Santana, an ingenio is "a small settlement, whose installations, factories, and other buildings are organized around an open space or great plaza, called a batey, where all the roads to the sugar field converge." Alicia García Santana, Trinidad de Cuba: Ciudad, plazas, casas y valle (Havana, Cuba: Consejo Nacional de Patrimonio Cultural, 2004), 260.

\(^3\) The word batey was originally used by the Taino Indians (indigenous population that inhabited the island when the Spaniards arrived in the fifteenth century) to denote the plaza at the center of their village.
convey order, power, and affluence and to enforce slavery and racial difference; and second, to analyze how African slaves countered Creole power through violent forms of resistance (intentional fires, conspiracies, collective protests) as well as non-violent ones (preservation of native customs, religious beliefs, music and dance) that involved the subversive and transformative use of architectural spaces. A study of socio-spatial negotiation, this dissertation traces the process by which an architectural setting designed for subjugation developed a distinctive architectural language resulting from the intermingling of different cultures and the adaptation to the particularities of context and climate.

Historical, Social, and Economic Background: The Sugar Revolution in Cuba

The last decades of the eighteenth century and the first ones of the nineteenth witnessed the transformation of Cuba from a colonial backwater into the world's premier sugar producer. The sugar revolution in turn had a pervasive influence in Cuban society, changing its population, class structure, and labor systems, as well as its trade, commerce, and foreign relations. During these pivotal years of Cuban history, Cuba also experienced a great demographic boom, urban transformations, and multiple intellectual pursuits; it was also a time of multiple uprisings, conspiracies, and rebellions, as Cuban society was torn by abolitionist propaganda, pro-slavery attitudes, independence movements, and pro-Spanish political stances, among other upheavals.

By the second half of the nineteenth century, the long struggle for Cuban independence had begun, first with the Ten Years' War (1868-78), then the Guerra Chiquita or Little War (1879-80), and lastly the Spanish-Cuban-American War (1895-98). The sugar revolution and Cuban independence are intrinsically related, as the wars of independence were indeed a social
revolution against not only the Spanish government but also against Creole power, plantation economy, slavery, and racism. Thus sugar, responsible for the economic and cultural flourishing of the colony, also tore apart Cuban society by the end of the century.

The causes, consequences, and actors of the Cuban sugar revolution have fascinated numerous historians, who have intensively researched the subject. In the short span of less than a century, Cuba passed from having 100 trapiches (ox-powered mills) in 1763 to about 500 by the early 1800s (many of which were modernized steam-powered ingenios), and to the incredible sum of 1,440 by 1846. This stupendous growth in sugar production during the late eighteenth and early nineteenth centuries was the collective result of several factors, which began with the ten-month British occupation of Havana in 1762 and the access granted to the Creole oligarchy to the lucrative English slave trade, events that finally broke with Spain's trade monopoly. According to Manuel Moreno Fraginals, the years between 1763 and 1802 were decisive in transforming Cuba into the top world producer of sugar. This ascendancy was due

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5 Rachel Carley, Cuba, 400 Years of Architectural Heritage (New York: Whitney Library of Design, 1997), 83. Similar numbers are given by Manuel Moreno Fraginals, who states that the Havana area had 89 sugar mills in 1759 and 237 estates in full operation by 1792. Moreno Fraginals, The Sugarmill, 25.

6 In the 1760s, the monopoly of Cádiz and Seville was destroyed. Later, between January 28, 1789, and April 12, 1798, eleven royal cédulas, orders, and decrees were issued, giving momentum to the great Spanish-Cuban slave trade. Moreno Fraginals, The Sugarmill, 15-19.

7 Moreno Fraginals, The Sugarmill, 17-20.
to the ever-expanding market and high prices of sugar,\textsuperscript{8} the new markets in Spain and the newly independent United States, the opening of Spanish ports to colonial trade, and the collapse of the French sugar trade after the 1791 Haitian revolution.\textsuperscript{9} Haiti's revolution speeded the process, and in the last decade of the eighteenth century Cuba went into a long sugar orgy, which Moreno Fraginals calls "the first dance of the millions."\textsuperscript{10}

Between 1763 and 1792 . . . sugar mill towers broke into our fields and became part of the scenery. The renovating tidal wave shook up the little \textit{trapiches} and the sugar invasion began, cutting down virgin forests and covering those fertile lands most accessible to seaports. The integrating process of large-scale manufacture was born.\textsuperscript{11}

Until that moment concentrated on the outskirts of Havana, by the beginning of the 1800s sugar production began its expansion along the coast to the west, to the jurisdictions of Matanzas, Cárdenas, and later Colon (see figs. 0.1 - 0.3).\textsuperscript{12} Havana's predominance as Cuba's major sugar-producing zone continued through the 1830s, but by the mid-1840s Matanzas' ingenios produced more than 55 percent of Cuba's sugar output.\textsuperscript{13} By the 1770s almost every

\textsuperscript{8} Between 1790 and 1795, the prices of sugar nearly doubled, increasing from 8 to 14 cents/pound. Bergad, \textit{Cuban Rural Society}, 21.

\textsuperscript{9} The Spanish commercial regime experienced important changes in the 1700s, especially under the reign of Charles III (1759-88) and the famous Bourbon reforms, which liberalized trade regulations in order to stimulate agricultural and commercial development. In 1765, for example, the Free Trade Regulations were published, permitting the import and export of articles within colonies of the Spanish Empire (with a tax of 6%). This regulation also applied to the trading of slaves and to the purchase of equipment and tools for agricultural enterprises. In 1776, Spain also allowed her colonies to trade with the United States (as part of their support of the American War of Independence). Other laws promoted the immigration of farmers, entrepreneurs and technicians (with their slaves) from Haiti, after the 1790 revolution, and from Spain. Moreno Fraginals, \textit{The Sugarmill}, 21; Carley, \textit{Cuba}, 80.

\textsuperscript{10} Moreno Fraginals, \textit{The Sugarmill}, 28.

\textsuperscript{11} Moreno Fraginals, \textit{The Sugarmill}, 17.

\textsuperscript{12} Moreno Fraginals, \textit{The Sugarmill}, 65-66.

\textsuperscript{13} The city of Matanzas was founded around 1693, sixty miles to the east of Havana, on the same coast and bay of that name, one of Cuba's best natural ports. Until the 1790s, however, the sugar
powerful member of the Havana nobility had established a presence in Matanzas. From this year onward, Matanzas’ sugar mills multiplied, becoming 2 ingenios in 1766, 18 in 1796, 76 in 1817, and the incredible sum of 344 by 1841. The introduction of slaves was also impressive. By 1774 in Matanzas, 901 slaves constituted 27.7% of the entire population; by 1841, though, the number of slaves soared to 53,331, constituting 62.7% of all residents within the Matanzas jurisdiction.\textsuperscript{14}

In the 1830s sugar began its penetration into the Cárdenas region, as planters kept pushing eastward, toward high-yielding virgin soils and forests (see fig. 0.3). Cárdenas was rapidly converted into the largest sugar-producing zone in Cuba, having 221 sugar mills in 1852, including the best of the country.\textsuperscript{15} By the 1840s and 1850s another wave of ingenio construction developed in the regions north of Colón known as Hacienda Banaguises, opened by the railroad (see fig. 0.4). According to Laird Bergad, by 1860 the region was transformed into the “richest zones of sugar production,” having eight of the ten leading ingenios of the island.\textsuperscript{16} The region was developed by prominent Cuban families, among them the Diagos, who constructed the ingenios Santa Elena, Tinguaro and Ponina; Julián de Zulueta, founder of the Habana, Álava, Vicaya and España; the Arrietas who developed the Flor de Cuba; Tomás sector was of minor significance, and the city's economic system was based on a small-scale tobacco production and a primitive cattle economy. Bergad, \textit{Cuban Rural Society}, 3-15; Lobo Montalvo, \textit{Havana}, 292.


\textsuperscript{16} Bergad, \textit{Cuban Rural Society}. 118, 139-140. The ten largest production ingenios, by 1856 were Álava (owned by Zulueta), Flor de Cuba (Arrieta), Tinguaro (Diago), Concepción (Pedroso), Ponina (Diago), San Martin (Pedroso), Santa Susana (Parejo), Narciso (Peñalver), Urrumea (Zuasnavar), Unión (Fernández).
de Juara Soler, who built the Conchita mill; and the Pedrosos, founders of the ingenios San Martín and Echevarría.\textsuperscript{17}

Another important sugar province was Trinidad (actual province of Sancti Spiritu), further west, in the center of the island (see fig. 0.1 and 0.2). By the end of the eighteenth century, sugar cane colonized Trinidad with an increase in the number of sugar mills, from 20 in 1750 to 57 in 1827, which were exploited by a workforce of 11,697 slaves and a free population of 28,706. By the 1840s Trinidad reached its zenith in sugar production, producing and exporting one third of the island's sugar.\textsuperscript{18}

Up until 1800, the growth of sugar production was mainly due to the rapid proliferation of new mills and the massive introduction of African slaves as a labor force, but not necessarily to the transformation of production techniques. It was between the years of 1800 and 1830 that large-scale manufacture began in Cuba, with the consequential formation of great production complexes. From modest and small *trapiches* with an average of thirty to forty slaves, Cuban sugar mills transformed into intricate complexes with steam-powered mills and a number of workers ranging between 100 and 1,000 slaves.\textsuperscript{19} Furthermore, the process of industrial reform in vogue in Cuba in the 1820s brought about a mechanization of the production of sugar, with the implementation of several technical innovations and new machineries, mostly in the

\textsuperscript{17} Bergad, *Cuban Rural Society*, 118. This dissertation includes analysis of the architecture of most of these sugar mills; for Tinguaro see fig. 3.13; for Ponina, 1.17; for Álava, 1.35; Flor de Cuba, 1.19, 1.22, and 2.1; for San Martín, 1.21, 1.30, 1.36, 2.2; for Echevarría, 2.30.


\textsuperscript{19} López Bastida et al., *Trinidad y el Valle de los Ingenios*, 55; Moreno Fraginals, *The Sugarmill*, 25.
grinding and boiling processes.  

All these techno-economic transformations required architectural adaptations, especially to the factories in order to contain the new machineries, and to the slaves housing complexes. From living in *bohíos* (shacks) cultivating their own food plots (*conucos*), slaves were confined in new prison-like buildings, called barracks. The increasing number of slaves and their frequent uprisings led to the necessity of a more rigid system of discipline, which assured productivity and security. Lastly, another important architectural transformation took place in the main house (*casa de vivienda*). With the consolidation of several fortunes, sugar planters remodeled and enlarged their houses to fit their enlightened and luxurious lives, and to adapt to the new Neoclassical architectural movement in vogue throughout Cuba.

By the 1830s the sugar industry in Cuba had matured and been consolidated, and the country achieved the biggest productions in the decades of the 1830s and 1840s. The growth continued a steady rise until the second half of the nineteenth century, when the Cuban sugar industry began its imminent stagnation and decline, with some provinces declining before

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20 The process of mechanization chronologically followed the production line: grinding mill, boiling room, and curing house. Among the changes in production were the mechanization of cane cutting; the use of bagasse as fuel; the introduction of a modern-type horizontal grinding mill and a steam-driven horizontal mill; the introduction of the Jamaica train (in the boiling room), replacing the earlier French one; the introduction of the vacuum pan for the evaporation of the syrup; and the introduction in 1849 of the centrifugal in the draining room for the process of draining and crystallizing. The process of industrial reform was prevalent in the country in the 1820s, and by the 1840s the use of the steam-powered sugar mill was widely adopted. Moreno Fraginals, *The Sugarmill*, 36-39; López Bastida et al., *Trinidad y el Valle de los Ingenios*, 57.

21 In several sugar mills of the valley of Trinidad there were slave uprisings in 1792, 1793 and 1798. Moreno Fraginals, *The Sugarmill*, 25; López Bastida et al., *Trinidad y el Valle de los Ingenios*, 55.

22 According to Moreno Fraginals, the years between 1837 and 1844 could be considered the Golden Age of Cuban sugar production. Earlier advances were registered in 1792 and between 1785 and 1804. Afterwards, new records were achieved between 1850-54 and 1855-59. Moreno Fraginals, *The Sugarmill*, 41, 30. In the case of Trinidad's Valley of the Sugar Mills, the highest sugar harvest in its history was registered in 1846. López Bastida et al., *Trinidad y el Valle de los Ingenios*, 57.
others. Trinidad's Valley of the Sugar Mills, for example, faced its biggest economic crisis in the year of 1857; in the case of Matanzas, the decline began after 1878. By the end of the century, however, an economic recession spread throughout the island. The causes of the decline of the sugar industry were varied: competition on the international market from sugar beets, which began in the 1830s; the growing debts of the sugar planters and their inability to fund the latest technological advances; and the impact of wars (the Ten Years War of 1868-78 and then the Spanish-Cuban American War of 1895-98) that severely damaged the Cuban sugar industry. The independence army (mambises) either burned sugar mills found in their way or used them as barracks. By the 1890s, the physical damage caused by the wars, paired with the consequences of the abolition of slavery (1886) and the process of concentration, monopolization, and centralization of sugar production at the hands of foreign companies (German and US firms, as well as Spanish immigrants), resulted in the total transformation of the Cuban sugar industry and the appearance of centrales, a completely different architectural complex, mostly owned by American corporations.

Even though the flourishing of the Cuban sugar industry starts in 1763 with the ten-month British occupation that initiated the sugar enterprise, and finishes in 1857 with the great economic crisis of the island and the collapse of the sugar industry, in this dissertation I will

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24 López Bastida et al., *Trinidad y el Valle de los Ingenios*, 45, 22.

25 López Bastida et al., *Trinidad y el Valle de los Ingenios*, 57, 60. In the new stage of development dominated by large American corporations, several small mills were acquired and consolidated into a larger central one, usually known as central azucarero. *A central* is "a gigantic productive unit housed in buildings with an iron structure and metallic siding and roofing, with several large chimneys." Felipe Préstamo, Narciso Menocal and Edward Shaw, “The Architecture of American Sugar Mills: The United Fruit Company,” *The Journal of Decorative and Propaganda Arts* 22, Cuba Theme Issue (1996): 65-66.
focus on the decades of the 1830s and 1840s, when sugar mills experienced the greatest architectural transformations. In terms of physical space, the area of study comprises and immediately surrounds the “Llanura de Colón,” which was the most important center of Cuban sugar plantations in the nineteenth century, constituted by the high-producing provinces of Matanzas, Cárdenas, and Colón (see fig. 0.1 - 0.4). I pay special attention to the sugar mills of three Cuban provinces: Havana, Matanzas, and Sancti Spiritu (Trinidad), which produced 70% of Cuba's total sugar input (see fig. 0.1).²⁶

**Creole Planters and African Slaves**

One of the unique features of Cuba's sugar development is that, contrary to what happened in English or French colonies, it was due to the effort of the colony itself and not the imposition of the colonizers.²⁷ The Creole oligarchy, usually noble, titled families of Havana who belonged, from the beginnings of the colony, to the landholding group, "found in sugar a new road to economic power."²⁸ Characterized by more than one historian as aggressive, capitalist, entrepreneurial, and bourgeois, the Cuban sugarocracy jumped all obstacles to start

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²⁶ The "Llanura de Colón" (Colón's Valley), with a flat terrain and topography ideal for the cultivation of sugar cane, covered provinces such as Guines, Matanzas, Cárdenas and Colón, where most Cuban sugar mills were located. By mid-nineteenth century, 439 ingenios were located in this area, producing 56.4% of the total sugar input of the island. Alberto Perret Ballester, *El azúcar en Matanzas y sus dueños en La Habana: Apuntes e iconografía* (Havana: Editorial de Ciencias Sociales, 2007), 376.

²⁷ Moreno Fraginals, *The Sugarmill*, 17. One of Bergad’s main arguments is that the economic development of Matanzas was above all in Cuban hands, specifically "Havana-based creole nobility" who "became the most important sugar planters in the region (Matanzas)." According to Bergad, most of these families traced their Cuban roots to the early colonial period, many claiming noble titles as counts and marquises, "and they were close to the centers of colonial political power." Bergad, *Cuban Rural Society*, 27, 48-49, 187.

²⁸ Creoles were the Cuban-born descendants of the first Spanish conquerors and colonists, and were the owners of original land grants. Moreno Fraginals, *The Sugarmill*, 15.
their sugar mills and create an economic system that served their specific class interests.  

Numerous historical studies have been dedicated to analyzing the nineteenth-century Cuban Creole elite, their origins and interests, and their economic, cultural, and social enterprises. Among them, Roland T. Ely's *Cuando reinaba su majestad el azúcar* (1963) and Leivi Marrero's *Cuba: Economía y sociedad* (1972), explore the role of the Creoles in the development of the sugar industry, their relations to the Spanish crown and their economic ties with the United States, as well as their cultural contributions to the Cuban society.  

Franklin W. Knight’s article " Origins of Wealth and the Sugar Revolution in Cuba, 1750-1850" (1977) explores how the Creole sector acquired their fortune, and the relationship between land, wealth, and society, while authors like Rubén Arango, Angel Bahamonde, and José Gregorio Cayuela focus on the ennoblement of Cuba’s elite and their close relations to the Spanish crown.  

Lastly, Laird Bergad’s groundbreaking book *Cuban Rural Society in the Nineteenth Century* (1990) studies the role of the Creoles in the development of the sugar industry in Matanzas.  

Among the main theses proposed by these studies are the cohesion of the Creole group, their Spanish ties, intellectual pursuits, and prominence in the development of the sugar industry, and the multiple cultural, technological, and economic contributions they brought to Cuba.

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30 Roland T. Ely, *Cuando reinaba su majestad el azúcar*; and Leivi Marrero, *Cuba: Economía y sociedad*.


32 Bergad, *Cuban Rural Society in the Nineteenth Century*. 
The socio-economic status of the Cuban Creole elite was dependent on their Spanish ancestries and heritage, which guaranteed their acquisition of great expanses of land, their political privileges and family associations, and their close relations to the Spanish crown. Creole planters were deeply proud of their Spanish ("white") roots and ancestry, while, at the same time, a growing identity with Cuba brought them closer to their land and local community. With the extraordinary development of the sugar industry at the end of the eighteenth century, the sugar planters began to amass huge fortunes, acquiring great social and economic power. This, in turn, strengthened their bond as a social group, reinforcing their sense of themselves as a cohesive community.

Usually educated in Europe and the United States, Cuban planters were deeply influenced by the ideas of the French Enlightenment and Neoclassicism; many knew more than one language, and they discussed the writings of Rousseau, Montesquieu, Voltaire, and many other European philosophers, both publicly and privately. They were also fascinated by the industrial revolution and travelled extensively to buy the most modern machines and gears. By the nineteenth century, Creole planters were not only orchestrating and guiding the Cuban economy, but also promoting the sciences and the arts. They founded the Sociedad

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33 According to Bahamonde and Cayuela, political privileges included access to the local government, noble titles, and consent to slave trade and free commerce granted by the Spanish Crown and the metropolitan government to Cuban planters in order to reinforce the colonial system by gaining the financial and political support of the powerful local elite. Bahamonde and Cayuela, "La creación de nobleza en Cuba durante el siglo XIX," 56-82.

34 Manuel Barcia Paz, *Seeds of Insurrection: Domination and Resistance on Western Cuban Plantations, 1808-1848* (Baton Rouge: Louisiana State University Press, 2008), 74, 80; Carley, Havana, 80, 83.

35 Carley, *Cuba*, 80.
Económica Amigos del País, a cultural and civic organization for learning and debate.36

Through the Sociedad, Creoles brought to Cuba the first steam-powered ingenio37 and the first steam ship,38 and sponsored the construction of the 1837 Cuban railroad.39 In addition, they propelled the foundation of a secular university in 1841,40 and sponsored the creation of the first school of art in Cuba, the Academy of San Alejandro, inaugurated in 1818.41 Lastly, among their initiatives were the founding and edition of the Papel Periódico and the

36 Chartered in 1793 by Havana's Creole class, and under the stewardship of Francisco de Arango y Parreño, a prominent economist, the Sociedad Económica Amigos del País was one of the most important cultural institutions of the moment, promoting the sciences and the arts and winning critical concessions on behalf of Creole sugar planters. Joaquín de la Puente and Adelaida de Juan, Pintura española y cubana y litografías y grabados cubanos del siglo XIX (Madrid: Museo del Prado, 1983), 44; Carley, Cuba, 80.

37 The first steam-powered ingenio was purchased in London in 1794. Carley, Cuba, 80.

38 The first steam ship was brought to Cuba by Juan O'Farril in 1819, at which time Cuba became the fourth country in the world to have steam navigation. Emilio Cueto and Frédéric Mialhe, Mialhe's Colonial Cuba: The Prints that Shaped the World's View of Cuba (Miami: Historical Association of Southern Florida, 1994), 1.

39 The Cuban railroad was the first in Latin America, founded before even Spain inaugurated a rail system. The first section of the railroad was opened in 1837 between Havana and Bejucal, and although this first line was owned and operated by the state, it was privatized in 1842. After that, entrepreneurs organizing the other different routes were almost all Creoles from old, Havana-based titled families. In a mere twenty years rail lines linked all the Cuban sugar areas. By 1860 Havana was connected with the island's main cities. The railroad opened new possibilities for sugar-related economic expansion; cut inflated transport costs; made large-scale slave manufacture possible; and removed the brakes from sugar expansion. Carley, Cuba, 80; Moreno Fraginals, The Sugarmill, 72; Bergad, Cuban Rural Society, 107-109.

40 This university marked a break with the Spanish ecclesiastical tradition, offering new courses such as philosophy, political science, economics and botany, subjects directly relevant to agricultural production. In addition, in 1837, Professor José Luis Casaseca y Silván, pioneer in chemistry studies, began the teaching of that discipline, vital for sugar-making. Carley, Cuba, 83; Cueto and Mialhe, Mialhe's Colonial Cuba, 1.

41 The Sociedad Económica Amigos del País sponsored many art exhibitions. Some relevant ones are the Exhibition of History, Science and Fine Arts in 1852 and the exhibition of Cuban landscapes in 1866. Carley, Cuba, 80.
establishing in 1839 of a top-quality lithographic press.\textsuperscript{42}

Despite sugar planters' great intellectual pursuits and impact on Cuba's society, they had little influence in political affairs, since most bureaucratic positions were reserved for Peninsular Spaniards or \textit{Peninsulares} (those born in Spain), who also dominated commerce and were at the top of the social hierarchy. In a very unique way, the sugar revolution both reinforced the tension between Creoles and \textit{Peninsulares} and consolidated a firm alliance between the two. On the one hand, with their rapid accumulation of wealth and their greatest political awareness, Creole planters "resented the loss of much profit by the limitation of their products to the small Spanish market" and "gradually came to detest their subordination socially and economically to the \textit{Peninsular} class."\textsuperscript{43} On the other hand, planters relied heavily on the Spanish merchants for plantations supplies, credit, and the marketing of their product, and both groups unanimously supported slavery. Thus, as long as Spain supported slavery, the planters maintained a pro-Spanish attitude, and "Spanish hegemony was closely tied to the future of slavery."\textsuperscript{44} Franklin Knight argues that

Even if the Cuban Creoles were ambivalent, there was little doubt that, until the middle of the nineteenth century, they consistently preferred sugar and slavery to any idea of political change. Profit, not politics, was apparently their mayor goal.\textsuperscript{45}

\textsuperscript{42} The \textit{Sociedad} conceived the production, never attempted before in Cuba, of a large collection of prints depicting Cuban landscapes and views, to be distributed in installments by subscriptions. The views were distributed, in sets of four prints each, on the 15th of every month. The first of these collections, \textit{La isla de Cuba pintoresca,} 1839-42, transcended the Cuban market. Cueto and Mialhe, \textit{Mialhe's Colonial Cuba,} 2-3.

\textsuperscript{43} Franklin W. Knight, \textit{Slave Society in Cuba during the Nineteenth Century,} (Madison, Milwaukee and London: University of Wisconsin Press, 1970), 90.

\textsuperscript{44} Knight, \textit{Slave Society in Cuba,} 92; Bergad, \textit{Cuban Rural Society,} 187; Moreno Fraginals, \textit{The Sugarmill,} 15.

\textsuperscript{45} Knight, \textit{Slave Society in Cuba,} 92.
A constant fear of a slave revolt also brought Creole planters and Spanish authorities closer, especially after Haiti's Revolution of 1791. The Haitian Revolution (1791–1804) was a slave revolt in the French colony of Saint-Domingue, which culminated in the elimination of slavery and the founding of the Haitian republic. Plantation slaves plunged the colony into a civil war, killing plantation owners and burning or destroying around 180 sugar plantations. Thus, both Spaniards and Creoles feared a similar rebellion in Cuba, which could be the end not only of plantation economy, but also of Spain's domination on the island. An alliance was sealed, and the Spanish government unleashed hard responses to any slave rebellion or insurrection in Cuban territory.  

The political stance of Creole sugar planters is instrumental for understanding their architectural decisions. Their influence in deciding the architectural profile and urban image of entire Cuban cities according to the style of their preference has been extensively argued by authors such as Felipe J. Prestamo, Alicia García Santana, Joaquín E. Weiss, and Paul Barrett Niell. As I will demonstrate, the sugar mills' architecture was also envisioned and shaped by the Creole owners and their three-fold aim: to control and subjugate the African slaves, to demonstrate their growing economic and social power as a group, and to construct an image

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46 A case in point was the slave revolt La Escalera that occurred in 1843 on sugar plantations in Matanzas province. The subsequent Spanish government's activities and repression included investigations, interrogations, persecutions, executions, imprisonments, and exile implemented by Spanish authorities. See Robert L. Paquette, Sugar is Made with Blood: The Conspiracy of La Escalera and the Conflict between Empires over Slavery in Cuba (Middletown: Wesleyan University Press, 1988).

that symbolically represented their growing sense of a collective identity (usually based on ideas of progress, modernity, and capitalism).

Along with the Creoles, the others responsible for the Cuban sugar revolution were the African slaves, on whose harsh labor depended the entire plantation economy. The theme of slavery has always pervaded Cuban historiography, especially the slaves’ role in the sugar revolution, the slave trade, the fight for abolition, and Afro-Cuban culture, folklore, religion, etc. Significant works on the subject of Cuban slavery are Fernando Ortiz’s books *Los negros brujos* and *Los negros esclavos* (1906 and 1916); Franklin Knight’s *Slave Society in Cuba during the Nineteenth Century* (1970), and more recently Gloria García Rodríguez’s *Voices of the Enslaved in Nineteenth-Century Cuba* (2011).48

Even though African slaves had been introduced into Cuba since the beginnings of the colony, after the English occupation of 1762 and the following reforms of Charles III, slaves were imported in massive numbers. A royal cédula of February 28, 1789, permitted foreigners and Spaniards to sell as many slaves as they could in a specified number of free ports, including Havana, and after this, eleven royal pronouncements (between 1789 and 1798), removed all previous restrictions and taxes on the slave trade.49

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49 Knight, *Slave Society in Cuba*, 11.
According to Moreno Fraginals, the average number of slaves introduced to Cuba for sugar production alone between 1765 and 1790 was about two thousand slaves a year.\textsuperscript{50} According to the statistics presented by Franklin Knight in his book \textit{Slave Society in Cuba during the Nineteenth Century}, the number of slaves in 1774 was 38,879 (22.8\% of the population), rising in 1827 to 286,942 (40.8\% of the entire population). By 1841, the total number of slaves was 436,495 (43.3\% of the population).\textsuperscript{51} According to Barcia Paz, the largest number of slaves who arrived in Cuba came from West-Central Africa (usually known as “Congos”). In addition \textit{Lucumí} slaves (coming from the Oyo empire, now southwestern Nigeria), \textit{Carabalís} (from the Igbo culture, located in southeastern Nigeria), \textit{Minas} (from the Gold Coast), \textit{mandingas} and \textit{gangas} (from the region of Sierra Leone and Liberia) were also numerous. These African slaves were captured and sold to European traders, and after a long transatlantic voyage “arrived in the New World and found themselves among strange peoples, strange languages, and new occupations.”\textsuperscript{52}

In the nineteenth century, the majority of slaves imported into Cuba ended up on the sugar estates, working usually in the fields (as cutters or cart drivers) and in the factories (boiler room, purging house, etc.). Other duties included carrying the bagasse\textsuperscript{53} and tending fire, cooking, serving water, etc.\textsuperscript{54} Slavery was harsh and inhumane in Cuba, as everywhere else, but it was especially cruel in the sugar mills. The slaves worked seven days a week, and in times of

\textsuperscript{50} Moreno Fraginals, \textit{The Sugarmill}, 19.

\textsuperscript{51} Knight, \textit{Slave Society in Cuba}, 22.

\textsuperscript{52} Knight, \textit{Slave Society in Cuba}, 47.

\textsuperscript{53} Bagasse is the fibrous matter that remains after sugarcane stalks are crushed to extract their juice. It was stored and later used as fuel.

\textsuperscript{54} Knight, \textit{Slave Society in Cuba}, 67, 72-73.
harvest, twenty hours a day with only four hours of sleep. A bell, an indispensable element in a sugar mill, summoned slaves at sunrise for the Ave Maria, at noon to return to work, and in the evening to leave the fields to continue working at marginal tasks. To conquer sleep and tiredness, and to maintain discipline, a system of power was set up that relied upon a hierarchical structure, an architectural complex envisioned to support the system, and a mechanism of punishment, mostly consisting of flogging, stocks, shackles, chains, and imprisonment.\textsuperscript{55}

Nonetheless, "slaves never remained indifferent or acquiescent to their conditions." They resisted slavery in many ways: some poisoned their masters, destroyed machines, or set buildings and cane fields on fire; others resorted to suicide, desertion, spontaneous uprisings, and open rebellion.\textsuperscript{56} However, the slaves' ability to contest Creole power also included non-violent forms of resistance, such as the reenactment of forbidden habits, customs and religious beliefs, joint singing and dancing, architectural transformations and adaptations, and new meanings or uses assigned to the sugar mill’s spaces.

**Relevant Literature on the Architecture of Cuban Sugar Mills and Philosophical Framework**

Few publications have analyzed the architecture of nineteenth-century Cuban sugar mills despite the overwhelming quantity of social, economic, and cultural studies analyzing the Cuban sugar revolution (its actors, causes and consequences) and the institution of slavery. The first author to study acutely the mechanics of nineteenth-century Cuban sugar mills was

\textsuperscript{55} Knight, *Slave Society in Cuba*, 76-77.

\textsuperscript{56} Knight, *Slave Society in Cuba*, 77.
Manuel Moreno Fraginals in his three-volume, ground-breaking book titled *El Ingenio: Complejo económico social cubano del azúcar*, published in 1978. In this work, the author traces the development of the Cuban sugar industry from 1760 to 1860, with a special emphasis on technological changes, machineries, processes, and labor forces. Although not an architectural study, his book is instrumental in understanding the technological and mechanical functioning of a Cuban sugar mill in the nineteenth century.

A crucial contribution is Alberto Perret Ballester’s book, *El azúcar en Matanzas y sus dueños en La Habana: Apuntes e Iconografía*, from 2007. In this impressive survey, the author locates 608 sugar mills that operated in the province of Matanzas between the sixteenth and twentieth century, compiling photographs of the extant ruins and technical information of each complex, along with concise biographies of the owners. Although the author’s main concern is not architecture, the book’s accurate information regarding the names, location, and owners of Matanzas’ sugar mills have been instrumental for my research.

After 1988, when UNESCO declared the Cuban province of Trinidad, with its nearby Valley of the Sugar Mills, a world heritage site, Cuban scholars began to survey its urban and rural architecture, publishing several important studies. Of great relevance is the bilingual architectural guide *Trinidad and the Valley of the Sugar Mills* (2003), which documents with photographs, floor plans, engravings, and maps, along with historical facts and descriptions, 231 buildings in the town and the Valley of Trinidad, among them 15 sugar mills. In addition, the Cuban architectural historian Alicia García Santana has published several books studying the architecture of Trinidad, among them, *Trinidad de Cuba: Ciudad, plazas, casas y valle*

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58 López Bastida et al., *Trinidad y el Valle de los Ingenios*. 
In all publications, the author includes a chapter dedicated to the close examination of the casas de vivienda (plantation houses) in the Valley of the Sugar Mills, analyzing floor plans, façades, roofs, doors and decoration. Following a formalist approach to architectural history, these works focus on styles, materials, and construction techniques, rather than probing the purpose and uses of architectural spaces in broader social, historical and cultural contexts. Nevertheless, these studies have been instrumental in safeguarding, preserving, and documenting this almost disappearing patrimony, and with their serious stylistic analysis of architectural forms, the authors have paved the way for more focused studies.

Building on this essential literature, my study moves beyond the formalist reading to more complex analyses of architectural forms, decoding the intentions and agendas of the owners, the different layers of meanings, and the distinct experiences of the people involved in the production and uses of these sugar mill spaces. As methodological models, I will turn to postmodernist and postcolonial architectural theories, especially to those of Umberto Eco.

59 García Santana, Trinidad de Cuba: Ciudad, plazas, casas y valle; Alicia García Santana, Trinidad de Cuba: Un don del cielo (Guatemala: Ediciones Polimita, 2010); Alicia García Santana, Teresita Angelbello, and Víctor Echenagusia, Trinidad de Cuba, patrimonio de la humanidad: Arquitectura doméstica (Quito: Ediciones Abya-Yala, 1996).

60 Although in American and Latin American plantations the term “hacienda,” or main house, is used to denote the house of the owner in a plantation site, in Cuba, the terms more commonly used by Cuban scholars are casa de vivienda (living house) or casa de plantación (plantation house). In my dissertation I use the Spanish terms interchangeably; on some occasions, I use the English terms “plantation house” and “hacienda.”

Henri Lefebvre,\textsuperscript{62} and Michel Foucault,\textsuperscript{63} and their conception of architecture as a form of discourse and ideology, with no finite or fixed meaning, but with multiple possible different readings constructed by different people and social classes.

Based on Umberto Eco’s theories about the two main functions or forms of communication of architectural forms—as functional objects and as symbolic objects—, I study the Creoles’ manipulation of the sugar mill architecture and spaces to provoke a certain form of inhabitation—one that subjugated the African slave—and to communicate, through visual codes, ideas of political supremacy and social power.\textsuperscript{64}

In addition, the French philosopher and social theorist Henri Lefebvre’s phenomenological approach has been influential in my work. In his work \textit{The Production of Space}, he proposes the study of space on its three levels of meaning: “the perceived,” “the conceived,” and “the lived.” According to his theories, the architect conceives the space as a visual one, while the user's space is lived, not represented or conceived, and in this space, "the private realm asserts itself, always in conflictual way, against the public one."\textsuperscript{65} Following a similar approach, I juxtapose the Creole's conceived spaces and the slaves' lived spaces, in order to demonstrate how architectural forms were manipulated and transformed to fit the agendas of the different groups and their struggle for political, social and cultural power.

Lastly, Michel Foucault’s philosophical study of architecture as a “form of power” has


\textsuperscript{64} Umberto Eco, "Function and Sign: The Semiotics of Architecture," 182-200; Roland Barthes, "Semiology and the Urban," 166-172.

\textsuperscript{65} Henri Lefebvre, "The Production of Space," 138, 144-145.
been quite relevant to my work, especially his analysis of the Panopticon, in his book

*Discipline and Punish: The Birth of the Prison.* A similar idea is further explored by Thomas Markus in his book *Buildings & Power: Freedom and Control in the Origins of Modern Building Types.* For both authors, certain buildings transcend their functional or stylistic dimensions, to become “an idea in architecture,” a discourse that makes possible certain power relations, revolutionizing a whole society or epoch.\(^66\)

This theoretical approach that analyzes architecture as a form of power with different possible reading and interpretations, is not new to the study of plantation architecture. Since the 1970s, plantation and historical archaeologists have analyzed archaeological records of plantation sites in order to study "living conditions under slavery; status differences within the plantation community; relationships of planter dominance and slave resistance; and formation of African-American cultural identity."\(^67\) Some important works are the archaeological studies of C. E. Orser,\(^68\) James A. Delle,\(^69\) and Theresa Singleton,\(^70\) which focus on American,


Jamaican and Cuban plantations. In his multiple articles and books, C. E. Orser, undertakes comprehensive spatial analysis of antebellum and post-bellum plantation sites in the American South, considering the role played by material culture, including spaces, in the negotiation of power and class relations. Similarly, James A. Delle, in his book *An Archaeology of Social Space*, investigates the struggles for power between European planters and African slaves through the analysis of coffee plantations in Jamaica. Furthermore, Theresa A. Singleton, in her article "Slavery and Spatial Dialectics on Cuban Coffee Plantations," examines the dialectal relationship between coffee slaveholders' manipulation of spaces and enslaved laborers' resistance. Singleton constitutes, until now, the only author using this theoretical approach to study plantation architecture in Cuba. Her study focuses on archaeological data drawn from two Cuban coffee plantation, the Cafetal El Padre and Angerona, both in Havana, analyzing the

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74 Singleton, "Slavery and Spatial Dialectics on Cuban Coffee Plantations."
ways in which planters manipulated architectural spaces to control the slaves, and the ways in which slaves resisted planters’ hegemony. Following this approach, my study will extend her argument to the Cuban sugar mill architecture, which also responded to the same Creole power-African resistance dialectic.

In addition to these archaeological works, architectural historians have also explored the negotiation of power in plantation architecture. Their studies are particularly relevant models for my dissertation, since they focus more on spaces, architecture, and visual arts rather than archaeological artifacts. This is the case of John Michael Vlach, who has studied not only plantation architecture but also plantation paintings in the United States. In his book *Back of the Big House* he describes the architectural settings of plantation slavery in the American South while suggesting how slaves modified them. In *The Planter's Prospect: Privilege and Slavery in Plantation Paintings*, Vlach studies the aesthetic motives and social uses of plantation images, examining the way in which they became a visual propaganda of southern refinement, authority, and achievement. Both works constituted valuable examples of the use of images (photographs and paintings of plantations) and texts (slaves' testimonies) to gain understanding of the human dimension of buildings.

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75 Vlach, *Back of the Big House*. Images from the Historic American Buildings Survey (HABS) provide most of the evidence for his study of plantation buildings and spaces. The author matched selected testimonies of former slaves with the HABS images in order to gain some understanding of the human dimension of old buildings.

76 John Michael Vlach, *The Planter's Prospect: Privilege and Slavery in Plantation Paintings*, (Chapel Hill: University of North Carolina Press, 2002). In this study, Vlach combines the analysis of images (the paintings or the photographs of plantations) and texts (slaves' narratives or description of plantations found in novels and other commentaries) in order to understand the intentions of the artist/owners and the audience’s readings and interpretations.
Sources and Methodology

Of the thousands of sugar mills operating in Cuba in the nineteenth-century, none has survived in its totality. Today, most of the once great sugar haciendas have either vanished or been reduced to ruins. Here and there can be glimpsed a solitary chimney, an occasional bell tower, or partial, now ruined, foundations and structures, the only traces left of these plantations' past grandeur (see figs. 0.8 - 0.11). In order to reconstruct and analyze meticulously the architectural type devised by the Cuban Creoles planters in the beginnings of the nineteenth century for their sugar mills, my research combines the examination of architectural, art historical, literary, and historical sources.

In terms of architectural studies and documents, first and foremost I carried out first-hand analyses of the archaeological remains of various sugar mills in the provinces of Trinidad, Matanzas, and Havana (around 20 complexes in total). As a trained architect, I followed the standard procedure to survey and graphically document extant structures. The first, and usually the most difficult step, was the location of the sugar mill remnants. In some cases, the ruins are touristic sites and are thus easily accessible, but most of them are completely abandoned in the countryside. Thus, I had to rely on some information published by August Perret

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77 By the end of the century, the Independence army had burned most sugar mills. The ones that survived gradually disappeared as a result of the concentration and centralization of sugar production.

78 Lobo Montalvo, Havana, 296.

79 This was the case of the sugar mills of Manaca Iznaga, Guáimaro and San Isidro de los Destiladeros in Trinidad; Angerona and Taoro in Artemisa, Havana; and Alava and Triunvirato in Matanzas.

80 This was the case of the sugar mills La Pastora, Delicias and Buena Vista in Trinidad; Armonía, Las Cañas and Santa Gertrudis in Matanzas; among others.
(including a map of difficult reading) and Alicia García Santana,81 as well as on the word of locals and residents in the surrounding areas. With this information, I pinpointed the possible locations through satellite images from Google Earth (see figs. 0.5 – 0.7), and drove through primary and secondary roads in the country to locate the buildings, asking the locals for specific directions. Upon finding the ruins, I conducted a reconnaissance survey determining the distribution of the architectural remains in the area and identifying the most significant extant structure within each site. I photographed every property within the site, showing front, rear, sides, and close-up views, as well as the property’s setting. I also sketched site plans recording the location of every building, foundations, structures and significant landscape features (see fig. 4.10).

A more intensive survey was elaborated for the casa de vivienda, in most of the cases, the best-preserved building of the site.82 I documented the exterior as well as the interior spaces and features, including photographs of principal rooms, architectural elements such as windows, doors, grills, wall painting, furniture, among others (see figures in chapter 4). In addition, I measured the interior spaces, making hand-drawn sketches of the floor plans. Later,

81 In her book, Trinidad de Cuba: Un don del cielo, Alicia García Santana published the complete drawing of the Trinidad Railroad, made by Julio Sagebien in 1845, which also included the locations of all the sugar mills in the area. Although printed in a minute scale this map was very useful for me for locating the roads that could lead to the abandoned sites. In addition, Auguste Perret, in his book El azúcar en Matanzas y sus dueños en La Habana: Apuntes e iconografía, included a hand-drawn map with the location of 618 sugar mills in the province of Matanzas. However, the map is almost illegible due to the poor quality of the impression and the small scale. García Santana, Trinidad de Cuba: Un don del cielo, 44; Perret Ballester, El azúcar en Matanzas y sus dueños en La Habana, 343.

82 An intensive survey involves a more in-depth look at specific historic resources. The surveyor usually selects a primary resource, which will receive the most attention. The primary resource is selected based on one or more of the following criteria: its rarity, quality of architectural design, physical integrity, building type, or state of preservation. In my case, the casa de vivienda was usually the most significant structure, due to the state of preservation and quality of architectural design. Only two houses were still inhabited, La Pastora, in Trinidad and Las Cañas in Matanzas. The owners granted permission for the survey and were very helpful in providing information about the property’s history and the location of potential archaeological resources.
these floor plans, along with elevations and sections, were drawn to scale through computer-aided drafting programs, providing the necessary level of detail and accuracy (see figs. 4.1, 4.9 and 4.11).\textsuperscript{83}

Besides first-hand surveys of sugar mill ruins, I also consulted primary sources of nineteenth-century architectural drawings of Cuban sugar mill buildings: namely, those of Pedro Celestino del Pandal and Eduardo Laplante. Pedro Celestino del Pandal was an important Spanish architect who designed and built major works in the city of Matanzas between the years of 1867, when he was appointed municipal architect of the city, and 1898, year of his death. Besides his work as an architect he also made a career as a real estate surveyor and appraiser. In this regard, he prepared an inventory of Domingo Aldama’s properties, including four ingenios, San José, Santa Rosa, Santo Domingo, and La Concepción, all in Matanzas. The inventory, now in the Department of Drawings of the Cuban National Archive, includes floor plans of every building in each complex, and detailed description of their architecture, interiors, machineries and furniture.\textsuperscript{84}

The book \textit{Los Ingenios}, published in 1857, constitutes one of the most important primary sources for my study.\textsuperscript{85} The book describes and portrays 25 of the most important

\textsuperscript{83} In the province of Trinidad (four hours by car from Havana), UNESCO rescued 15 sugar mills, of which only the house of the owner or some foundations survives. Several other ruins can be found in Matanzas and around Havana.

\textsuperscript{84} Pedro Celestino de Pandal, a native of Llanes in the Spanish region of Asturias, arrived in Havana in 1856, at 18 years of age. With a fellowship, he went on to study architecture at the \textit{Real Academia de Nobles Artes de San Fernando} in Madrid and upon his return was appointed municipal architect of the city of Matanzas. He worked on the design and construction of many important works in the city, among them the church of Versalles, the bridges over the San Juan and Yumurí rivers (La Concordia bridge), Cervantes Park, and the refurbishing of the parish church and numerous quintas and houses. Alicia García Santana, Julio A. Larramendi, and Alejandro Hernández Sánchez, \textit{Matanzas, la Atenas de Cuba} (Ciudad de Guatemala: Polymita, 2009), 162-164.

\textsuperscript{85} Justo G. Cantero and Eduardo Laplante, \textit{Los ingenios: Colección de vistas de los principales
sugar mills of the epoch (see Appendix 1), with detailed accounts written by the sugar planter Justo Germán Cantero, and beautiful lithographs and drawings made by the French painter and engraver Eduardo Laplante. The book was produced through eight installments, between 1855 and 1857, and it was printed in the lithography press studio of Luis Marquier. The edition was financed through the payment of subscribers and the contribution of the sugar mill’s owners.

Among the architectural drawings included in the book, are four floor plans of general layouts (Armonía, San Martín, La Ponina and Flor de Cuba sugar mills) and three floor plans of boiling houses (Santa Susana, Ácana and Amistad sugar mills). However, the most valuable contribution of the book are the twenty-eight lithographic scenes made by Laplante’s reproducing either bird’s-eye views of the sugar mills’ complexes or interior views of the boiling houses (see figs. 1.17, 1.18, 2.1 and 2.2). The French artist rendered with meticulous detail every building within the site, and every machine used in the process of sugar making.

_ingenios de azúcar de la isla de Cuba_ (Havana: Litografía de Luis Marquier, 1857).

86 Justo Germán Cantero y Anderson (Trinidad 1815-1870) studied medicine in Massachusetts (United States) between 1833 and 1838. He returned to Cuba in 1839 where he validated his title at the University of Havana in 1840. He started to practice in Trinidad, where one of his patients was the prosperous hacendado Pedro José Iznaga y Borrell. Upon his death, Cantero married his widow, Monserrate Fernández de Lara y Borrell, owner of five sugar mills. This alliance gave him access to the sugar business and Trinidad’s social elite. Besides taking care of his eight plantations—to his wife’s five he added three more—and his patients, he was also involved in numerous projects for the city, such as railroad construction and the editing of the newspaper _El Correo de Trinidad_. Cantero hosted important travelers, among them don Francisco Serrano y Domínguez, Duke de la Torre and his wife Antonia Domínguez de Guevara y Borrell, countess of San Antonio, the Prussian naturalist Alexander von Humboldt, and the German naturalist Juan Cristóbal Gundlach. He died in 1870 in economic ruin. Luis Miguel García Mora and Antonio Santamaría García, "Donde cristaliza la esperanza: Lectura de los ingenios," preface to the new edition of _Los ingenios: Colección de vistas de los principales ingenios de azúcar de la isla de Cuba_, by Justo G. Cantero and Eduardo Laplante (Madrid: Centro Estudios y Experimentación de Obras Públicas, 2005), 64-65.

87 The cost of each installment was 4 pesos and 2 reales. Individual prints were also sold for 1 peso. Since it was published in installments, the extant bound copies are scant, about 200. García Mora and Santamaría García, "Donde cristaliza la esperanza," 75.
However, his works are artistic constructions, idealized and idyllic, meant to highlight specific Creole achievements. I approach them as such in my dissertation, paying special attention to the artists’ conventions and stylistic choices to represent ideal yet realistic views of the complexes.

Each image was accompanied by Justo Germán Canteros’ meticulous texts, describing the sugar mill’s owner, foundation date, structures, technologies and machineries. In order to gain the necessary information for the publication, both Cantero and Laplante had to visit the different plantations, making the drawings and obtaining, from the proprietors, the necessary technical, economic and historic data to write the descriptions. In the presentation and introduction to the book, Laplante, Cantero and Luis Marquier thank the “intelligent” hacendados for their “kind cooperation, opening their estates with the greatest hospitality, providing important information, and showing a zealous concern for the prosperity of this blessed land.” Thus, the book, written by a sugar planter, and funded and aided by the sugar mill owners, constitutes a construction of the particular Creole point of view. In this sense, the book not only provides the only surviving views of how the greatest Cuban sugar mills looked in their age of splendor, but also presents the Creole group’s discourse of power so indispensable for this dissertation’s analysis.

In addition to Laplante’s lithographs, other artistic works of the epoch depicting Cuban sugar mills important for this investigation were the oil paintings of Esteban Chartrand and Justo Germán Cantero, introduction to Los ingenios: Colección de vistas de los principales ingenios de azúcar de la isla de Cuba (1857; repr., Madrid: Centro Estudios y Experimentación de Obras Públicas, 2005), 89. See also Luis Marquier and Eduardo Laplante, presentation to Los ingenios, 87.

The Cuban painter Esteban Chartrand (1840-1883), follower of the school of Fontainebleau, developed an artistic career in Cuba in the second half of the nineteenth century. He was part of the nineteenth-century Cuban landscape school, developing sentimental, romantic and idealized landscapes.
the lithographs of Frederic Mialhe.³⁹ Lastly, the 1950s photographic collection of Josefina (Fifi) Tarafa, now in the Archivo del Consejo Nacional de Patrimonio Cultural (Archive of the National Council of Cultural Patrimony), were also key sources to reconstruct the architectural type of nineteenth-century Cuban sugar mills. Tarafa photographically documented around 20 ingenios in the Matanzas region, still standing by the mid-twentieth century, capturing the look of the casas de vivienda (both exteriors and interiors), the barracks, the factories, and adjoining buildings. The Tarafa collection exceeds its artistic value to become an important historical document of now extinct buildings.

Since my methodological approach involves a query of the agendas, ideologies, and experiences of the people involved in the production and uses of architectural forms, I buttress architectural and pictorial analysis with the examination of historical and literary sources. Literary works of the time provide detailed narrations of how spaces were used, experienced, and interpreted. Of key importance are travel accounts, diaries, and letters written by visitors to the sugar mills who described in great detail the buildings and landscapes, the process of sugar processing, the slaves' daily lives, and the leisure activities of the plantation owners. In the

³⁹ The French painter and lithographer Frederic Mialhe arrived in Havana in 1838, employed by the Imprenta Litográfica de la Real Sociedad Patriótica (Lithographic Press of the Royal Patriotic society) in order to draw panoramic views of the city of Havana and the countryside. These were later published in 48 lithographs, known as La isla de Cuba pintoresca (Havana: Litografía de la Real Sociedad Patriótica, 1839). Three years later he produced another series of 21 lithographs for the press of Francisco Luis Marquier, titled Viage pintoresco al rededor de la isla de Cuba dedicado al Señor Conde de Villanueva (Havana: Litografía de Luis Marquier, 1848). In 1854, Mialhe returned to France. See De la Puente and de Juan, Pintura española y cubana, 48. See also Emilio Cueto and Frédéric Mialhe, Mialhe's Colonial Cuba: The Prints That Shaped the World's View of Cuba (Miami: Historical Association of Southern Florida, 1994).
nineteenth century, Cuba was a much-visited island. This fact, along with the peak popularity of travel narratives, is responsible for the rich and diverse number of travelers' accounts recording life on the island, and specifically the life on the sugar mills. Of special importance for my dissertation are the accounts of Richard Henry Dana, Samuel Hazard, Edwin Atkins, Abiel Abbot, H.B. Auchinloss, the countess of Merlin, among many others.

As a source of historical writing, the nineteenth century travel narrative is, of course, not the most objective source. Travelers came from different countries, and had different ideologies and interests, recording facts from a subjective viewpoint. Sometimes they were frivolous or racist, and sometimes they were deceived or were careless with generalizations or exaggerations. However, some authors were shrewd observers, who paid attention to detail and were able to compile valuable data that might otherwise have been lost forever. I have thus been highly selective in my inclusions, avoiding trivial or biased accounts, and incorporating those whose data have been confirmed by other contemporaneous authors. Of course, for this dissertation, the importance of travelogues transcends their authority as eyewitnesses, and lies more on their “perception of reality” and their personal experience of spaces and places.

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91 As the most important centers of the economic and cultural life of the islands, these plantations were visited by friars, travelers, poets, novelists, and renowned personalities who documented their experience in scientific treatises, traveler accounts, diaries, _costumbrista_ (folkloristic) poems and novels, often combining vivid descriptions with magnificent drawings.


93 Pérez, ed. _Slaves, Sugar & Colonial Society_, xxv.
Cuban anti-slavery narratives, especially the writings of Anselmo Suárez y Romero (1818-1878), Cirilo Villaverde (1812-1894), and Juan Francisco Manzano (1797-1854), are particularly relevant because they open up a space for a critical response to the drama of slavery. Many of these texts were produced at the request of the “enlightened” slaveholder Domingo Del Monte (1804-1853), to be given to the English commissioner Richard Madden (1798-1886), in charge of investigating the subject of the slave trade in the island. Thus, they became a medium in which authors could advance their personal sociopolitical agendas, especially regarding the abolitionist struggle.

Usually imbued with a romantic spirit and including numerous costumbrista passages, these anti-slavery works were in vogue in Cuba between 1830 and 1840, and the authors generated major literary works that contributed to the development of a genuinely Cuban literary culture. Their relevance for this dissertation lies on their vivid narration of the way of life, habits, and customs of Cuban slaves, especially the daily work and life in a sugar mill. Contrasting sharply with the hacendados' point of view and with the accounts of traveler writers, these costumbrista novels brings up another perception of reality and spaces, one that focus on the drama of slavery, and the social aspect of an oppressed race, their pain, and

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96 The most important costumbrista writing for this study is Anselmo Suárez y Romero, *Colección de artículos de Anselmo Suárez y Romero* (Havana: Establecimiento Tipográfica La Antilla, 1859), especially the section titled “Costumbres del Campo” (rural customs) that includes seven articles describing the life of the slaves in the ingenio Surinam.
sadness.

Due to the scarcity of slaves’ autobiographies in Cuba, their voices can primarily be found in the numerous court proceedings recorded by the Spanish colonial authorities, in which slaves figured as witnesses, defendants, petitioners, or advocates. These historical documents and records of judicial proceedings are used to help us penetrate the private lives of the slaves and their personal experience of the sugar mills’ spaces, and they become particularly relevant in the fifth and last chapter of the dissertation.  

When I combined the different sources and interwove the gathered information, meticulously analyzing the documentation as a whole, I came to realize that nineteenth-century Cuban sugar mills not only shared in common Creole owners and African enslaved labor, but also similar layouts, structures, materials, and façades. This comes as a natural result of an architectural complex that responded to standardized processes, technologies, and machineries of the sugar processing industry of the time; that was devised and built by a social group with similar background, interest, and heritage; and that was inhabited and worked by an imported enslaved population that fought to preserve their customs, religions, and culture. Thus, this dissertation does not pursue a single, individual analysis of any specific Cuban sugar mill, but rather a study of the architectural type devised by the Creoles owners, and openly manifested in lithographic images, contemporary accounts and archaeological remains. In doing this, my aim

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98 The books of Gloria García Rodríguez and Manuel Barcia Paz have been instrumental and particularly relevant for this dissertation. See García Rodríguez, *Voices of the Enslaved*; Barcia, *Seeds of Insurrection*. 
is to provide the first study of the Cuban sugar mills’ architectural type, implementing a preliminary macro-view that will lay the foundation for more focused and specific studies in the future.

**Contributions**

The analysis pursued in this dissertation seeks to understand the ways in which these shared architectural forms responded to specific socio-historical and cultural circumstances. My study combines for the first time the information contained in the ruins with the drawings, floor plans and artistic works (lithographs, oil paintings and photographs) of the epoch, along with the analysis of historical and literary sources in order to reconstruct and scrutinize the architectural type of nineteenth-century Cuban sugar mills. In addition, my study provides the first interpretation of why these architectural forms and spaces were chosen by the Creole elite, their intentions and connotations, set against the ways in which the slaves contested and inverted the original meanings of architectural forms through their own methods of cultural survival and political resistance.

The examination of lithographs is particularly relevant to understanding the role played by images in the construction of the elite's discourse of power. The images of the book *Los Ingenios*, commissioned and paid by Cuban sugar planters, carried potent ideological messages that were meant, along with the imposing complexes, to highlight the growing economic and social might of the Creole elite. But besides demonstrating their power, Creole planters envisioned and shaped the architecture of their sugar mills in order to ensure the control and subjugation of the African slaves. In doing so they incorporated many Enlightenment principles of the epoch along with several features of the Spanish architecture of conquest, establishing an
imposing architecture with clear socio-economic and racial hierarchy and ensuring confinement, isolation, a structured routine and constant surveillance. The slaves, in turn, in their constant struggle against oppression were able to carve out spaces where they kept alive their traditions, religions and customs. While partaking of the ingenio’s established functions and codes, they were also transforming architectural spaces by assigning new uses and meanings to them.

Through this analysis, my ultimate goal is to contribute to the field of Latin American architectural history, and specifically to postcolonial discussions, to which the Cuban scenario and particularly the negotiation of power between Creoles and African slaves will constitute a new, critical, and distinctive input. In the scholarly field of Latin American colonial architectural history, the post-colonial dialectic of the colonizers' set of meanings versus the colonized people's interpretations and adaptations has channeled many recent studies. Scholars have studied two main subjects: first, how the Spanish colonizers used architecture and city planning as a tool of conquest, colonization, and religious conversion to tighten control over indigenous population; and second, how indigenous forms, iconographies, traditions, and

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religions resurfaced in the Spanish architecture of power, transforming its meaning and uses.¹⁰⁰ Nevertheless, Latin American post-colonial issues of domination and resistance have always been treated as an early post-conquest phenomena, manifested in the sixteenth and seventeenth centuries, and involving the Spanish colonists’ architecture of power and subjugation, and the indigenous resistance. When scholars have ventured to study the eighteenth and nineteenth centuries, the focus has been the construction and definition of a Creole identity and consciousness, preceding the gestation of Independence.¹⁰¹ My study both challenges and enriches the discussion, by analyzing a Caribbean nineteenth-century industrial and agricultural building typology in which Creoles were not only constructing a collective identity (distanced from the Spaniards), but also re-using the colonizer's language of power to subjugate the imported African slaves. Their double struggle is also a double discourse: how to claim their rights of possession and belonging to the land against the Spaniards, while asserting their own social and economic authority, employing architecture as a tool of domination like

¹⁰⁰ See for example, Ralph Bauer and José Antonio Mazzotti, Creole Subjects in the Colonial Americas: Empires, Texts, Identities (Chapel Hill: University of North Carolina Press, 2009); Herman L. Bennett, Africans in Colonial Mexico Absolutism, Christianity, and Afro-Creole Consciousness, 1570-1640 (Bloomington: Indiana University Press, 2003). See also Alessia Frassani, "The Church and Convento of Santo Domingo Yanhuitlán, Oaxaca: Art, Politics, and Religion in a Mixtec Village, Sixteenth Through Eighteenth Centuries" (PhD diss., The Graduate Center, City University of New York, 2009).

¹⁰¹ Important literature has studied the construction of Creole identity in mainland countries, especially in the seventeenth and eighteenth centuries, and how they appropriated certain images (usually looking at the land and the indigenous population) to construct a Creole consciousness. See for example, Jeannette Favrot Peterson, "The Virgin of Guadalupe: Symbol of Conquest or Liberation," Art Journal 51, no. 4 (Winter, 1992): 39-47; Ilona Katzew, Casta Painting: Images of Race in Eighteenth-Century Mexico (New Haven: Yale University Press, 2004); and Francisco Oller y Cestero, and Marimar Benítez eds., Francisco Oller: Un realista de impresionismo /Francisco Oller: A Realist-Impressionist (Ponce: El Museo, 1983). In this book, José Emilio González's article, "Puerto Rican National Culture in the Nineteenth Century and Francisco Oller," explores how in the Caribbean, where there are no remains of indigenous population, the Creoles focus on the rural world, agrarian culture, and nature in order to articulate a national culture and define and construct a self-identity in the nineteenth century.
their colonial ancestors. The African slaves, different from their indigenous counterparts, had no claim to the land; they were strangers to it, and they therefore looked for ways to preserve their imported native roots and customs.

Outline of Dissertation

The first chapter of the dissertation, “An Ideal City: the Cuban Sugar Mill as an Urban Enterprise,” analyzes the typical nineteenth-century sugar mill layout, as depicted and described in primary sources, probing the way it perpetuated the features of Spanish urbanism and the architecture of conquest while at the same time following contemporaneous Neoclassical ideals. From Spanish models, Creoles adopted the supreme ideal of order, power, and racial hierarchy, using Classical elements, a strict geometry and different materials, styles, and locations to establish socio-economic distinctions. Their fascination with the Neoclassical trend is noticeable in the incorporation of ceremonial boulevards, marked axes, and big open spaces to create a sense of ceremony and monumentality. Through carefully planned layouts and strong architectural metaphors, Cuban planters were able not only to maintain a controlled and tight environment but also to send messages of economic and social power.

Chapter two, “The Power of the Sugar Industry: Monumental Architecture and Technological Discourse,” analyzes in detail the architecture of the sugar factories, which included three main buildings: the milling, boiling, and purging houses. I argue that the Creole planters’ fascination with technology and mechanization was responsible for the prominence, strategic location, and monumental architecture of the factories. Furthermore, in the beautifully rendered and intelligently idealized pictures of Eduardo Laplante in the book *Los Ingenios*, the factories’ interiors became a statement of industrial prowess, scientific knowledge, and
modernity: an allegory for Creole power.

The third chapter, "Mechanisms of Power and Discipline in the Cuban Sugar Mill," examines the architectural and spatial definitions imposed by the sugar planters in order to implement a system of power based on structured routines, constant surveillance, isolation, confinement, and physical punishment. Examining the overall landscape and the design of three important structures: the slave barracks, infirmaries, and nurseries, I argue that they were all conceived to enforce segregation, full visibility, and panoptic surveillance through centralized floor plans and a system of cells organized around open courtyards with strategic points of observation. This chapter also looks for the two contrasting forms of power exercised in Cuban sugar mills: traditional power, based on physical punishments and confinements, and modern power, based on Enlightenment ideas of knowledge, surveillance, and discipline.

Chapter four, "The Road toward a Cuban Vernacular Architecture: Casas de Vivienda and Bohíos," concentrates on these two structures, analyzing their floor plans, construction techniques, façades, and interior spaces, to explore how they evolved from older architectural models, the blending of cultures, and the contributions of fine and creative artisans. Although the casa de vivienda and the bohío pivoted at the two ends of the socio-economic spectrum, the straightforwardness of both architectures, the rescuing of ancestral traditions and inherited constructive techniques and crafts, as well as the attention given to climate, natural landscape, and available materials, generated unique architectural forms that can well deserve the name of vernacular.

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102 The term “vernacular” is used to define an architecture made by people without any training in design, using local materials, and responding to the local environment, culture, and traditions. In Cuba, the bohío, a descendant of native Taíno houses made with palms and thatched roofs, has been considered the vernacular structure par excellence. I will investigate how the sugar mills' bohíos evolved to incorporate African traditions and the specific needs of the owners. In addition, I will analyze the architecture of plantation houses, studying the vernacular solutions and details that were the result of a creative native artisan or an adequate response to the humid, hot climate of the Caribbean.
“lo cubano.”

The fifth and last chapter, "Appropriation and Resistance: The Afro-Cuban Lived Experience," examines existing literature (court records, costumbrista writings and travel accounts) to understand the way in which slaves appropriated and transformed the architectural spaces of the sugar mills to undermine Creole power and make their own condition more bearable. First, I examine how the slaves carved up spaces in which to keep alive their own culture, creating a sense of community by contact, singing and dancing, and the reenactment of forbidden habits, customs, and religious beliefs. Second, I analyze the contested and subverted use of spaces, from the planning of conspiracies to the occupation and domination, albeit momentarily, of the sugar mills, through collective protests and revolts that often led to the destruction of the complex.

Finally, summarizing the analyses of the preceding chapters, the Conclusion asserts the role of the Creole planters in manipulating architectural forms and spaces to enforce slavery and racial hierarchy, to legitimate their intellectual, social and economic position, and to build a collective identity rooted in the homeland and Spanish heritage. Furthermore, it recapitulates the ways African slaves resisted Creole power, through their bodily experience and contested...

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103 An important analysis, for example, is the slaves' subversive and contested use of the batey. This central plaza, where the slaves gathered several times a day, at the sound of the bell, to begin or to end the daily work, to eat, to pray or to receive punishments, was also the space par excellence for calling slave strikes or collective protests at the sound of African drums. Furthermore, on holidays, the slaves' singing, dancing, and drumming in the batey became acts of resistance circumspectly performed before the masters. The celebration in the batey of important Cuban fiestas like Holy Week, Corpus Christi and the beginning of the zafra (harvest), transformed the space into a sacred one, with the performance of African traditional music, chants and rituals. By changing the function of the space, the slaves assigned new meanings to it.

104 Because they were sites of oppression and brutality, symbols of slavery and colonialism, by the 1890s most sugar mills were burned and destroyed by an Independence army mostly composed by freed slaves.
use of spaces, as well as their ultimate destruction of architectural forms. This incessant power struggle between subjugation and rebellion constantly transforms the intentions, uses, and possible readings of architectural form and spaces. The Conclusion differentiates three important layers in the breakdown of Cuban sugar mills’ architecture: the conceived, the perceived and the lived space. Applying Lefebvre’s concepts, I analyze the differences between the conceived spaces of the planter as an architect, and his visual arrangements based on ideals of order, mathematical precision, and industrial scientific knowledge; the perceived spaces of visitors and travelers and their sensorial description of places and forms; and lastly the lived spaces of the slaves, and their appropriation of them through sounds, dancing, and bodily experiences.
CHAPTER ONE

AN IDEAL CITY: THE CUBAN SUGAR MILL AS AN URBAN ENTERPRISE

The ingenio is the most important estate of the island . . . More than a rural estate, it constitutes a small town . . . because of its population, large buildings, and expensive machinery employed in the production of sugar . . . This kind of ingenio usually has a good casa de vivienda, which sometimes deserves the name of 'palace' (with a chapel or altar to celebrate mass), houses for the overseer and the engineer, an infirmary or hospital, a kitchen, a purging house, a boiling house and an engine-house (mill). All these adjoining buildings surround an ample plaza known as the batey. All the roads (guardarrayas) traversing the estate in distinct directions converge at the batey; with a main road leading to the talanquera or main entrance within the enclosing wall . . . Far from the batey are located the bohíos, or slaves' huts, forming straight-angle streets like a small village. The bohíos are being substituted gradually by the barracks, a vast parallelogram, with as many rooms as slaves, all of them opening to an interior patio: closing the door of this kind of prison, the slaves are kept completely secure during the hours of sleep . . . Further on are located the tile factories . . . and also the bagasse houses, distillery, blacksmith's workshop, carpentry workshop, stables, pigsty, farmyard, and lime ovens.¹

With these words, José G. de Arboleya described, in 1852, the general layout and architectural configuration developed and implemented by most Cuban planters in their sugar mills (see figs. 1.17 – 1.22). Because of their dimensions and configurations, population, and built environment, sugar mills can be considered the Creoles first attempt to design, build and rule a town of their own.² Plantation landscapes were the result of the Creoles' decisions, and in this chapter I argue that Creole planters manipulated the built environment to create an ideal of order, geometry, and regularity, with a strict racial and social hierarchy, and a sense of ceremony and monumentality. Through these carefully planned layouts, they were able not only to maintain a controlled and tight environment, but also to send messages of economic and

¹ José García de Arboleya, Manual de la isla de Cuba. Compendio de su historia, geografía, estadística y administración (La Habana: Imprenta del Tiempo, 1859), 133-134. Translation mine.

² Rachel Carley, Cuba, 400 Years of Architectural Heritage (New York: Whitney Library of Design, 1997), 84.
social power through the use of strong architectural metaphors. Their most important model was the Spanish architecture of conquest, envisioned centuries earlier to exert control over the Indians and implemented throughout the Americas with an astonishing unity of purpose.

**The Creole Sugar Planters**

The Colombian Nicolás Tanco Armero, dedicated one chapter of his traveler account to the Cuban sugar mills, commenting about their Creole owners,

> The main sugar mills of the island of Cuba are located in Vuelta Arriba, and they belong to the wealthy Creoles, the cream of the crop of the population, the Cuban aristocracy. La Vica, the Narciso, the Concepción, are colossal estates, which yield great profits, and whose owners are the Count of Fernandina, the Count of Peñalver, the Count of Reunión de Cuba, Santovenia; that is, the Herreras, the Cuestas, the Montalvos, etc., which are the ancient families of the island . . .. The marquises and counts, sons of the country, are the main owners of sugar mills.³

He was not misguided, and Laird Bergad’s thorough and well-research socio-economic study, *Cuban Rural Society in the Nineteenth Century*, corroborates the fact that the economic development of the province of Matanzas was above all in Cuban hands, arguing that the first entrepreneurs establishing sugar mills were the titled families of Havana who orchestrated and guided the Cuban economy throughout the nineteenth century, creating an economic system that served their specific class interests.⁴

These Creole titled families who embarked upon the agricultural and industrial

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enterprise of sugar shared a class and racial consciousness, which thrived in the eighteenth century. Gertrudis Gómez de Avellaneda defined such an identity in the simplest terms: "There are bonds between those who began life under the same sky . . . the same habits . . . a single way of seeing and feeling."\(^5\) Maria Luisa Lobo Montalvo described these "habaneros" as caring intensely about "the prestige of their homes, the lineage of their families, the rituals of domestic life, the refinements of dress, the comforts of furniture, and the excellence of food; they were equally alive to innovations in literature, history, or the sciences."\(^6\)

By the beginning of the nineteenth century, these Creole aristocrats belonged to a powerful socio-economic group: the sugar planters or sacarocracy (sugarocracy). Their identity began to be shaped not only by their nobility, lifestyle, and ties to the homeland, but also by their operative capacity, their great knowledge of sugar, their practical spirit, and their unlimited wealth.\(^7\) They became well known for their international allure, their hospitality and lavishness toward visitors, and their prodigal investments in new machineries and equipment.\(^8\)

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7 With these words, Ernest Duvergier de Hauranne described the prototype of the “bourgeois conqueror of the eighteenth century," exemplified by don Juan Poey, Joaquín Ayestarán, José M. Morales, Ignacio Arrieta, Julián de Zulueta, Francisco Diago, among others. Ernest Duvergier de Hauranne, "Cuba et les Antilles," Revue des Deux Mondes (September-October 1866), in Juan Pérez de la Riva, La isla de Cuba en el siglo XIX vista por los extranjeros (La Habana: Editorial Ciencias Sociales, 1981), 150.

8 Duvergier de Hauranne visited, in 1865, the mansion of Juan Francisco Poey y Aloy (1800-1876), a Creole born in Havana of a French father. Hauranne says, "the family is simple and distinguished, and one notes the French influence of the owner of the house . . . . Educated in France until 14 years old . . . [he] is the owner of one of the most important plantations of the island, in which he employs 400 slaves . . . . He has been accused of belonging to the Spanish party, and even though he
Their cohesion as a group rested on their shared achievements: they brought the industrial revolution to the Cuban countryside, exerted their power over the African slaves, and rushed Cuba into capitalism, industrialization, and modernity.

Their socio-economic status was also dependent on their “whiteness,” and their European, but mostly Spanish, roots and ancestry. Nevertheless, while still deeply identifying with many forms of Spanish culture and material life, they became quite discontent with their total exclusion from the political sphere and their social and economic subordination to the peninsular Spaniards (Peninsulares). The child outgrew his parents, and Spain became an “outdated” and a “backward” country when compared with the industrialized United States, England and France, which became the new standards of progress and modernity for these Creole planters. The Creoles' education abroad and constant travels opened their eyes to new frontiers and models. In her book *Havana*, Lobo Montalvo explains this international allure for Cuban sugar planters.

[Creoles] had become less provincial and increasingly looked to the wider world, as a consequence of perfecting sugar production to meet international standards. Not only the merchandise but also its makers now traveled abroad, crisscrossing Europe, the Antilles, and the United States in search of high-yield species of cane, a new chemical potion, or a special measuring instrument. Thus the plantation owners broke the isolation to forge a network of global relations based upon classic bourgeois interdependence. However contradictory, Spanish colonialism constituted the only guarantee of the Creoles' wealth, privilege and power, and thus, a strong white cohesion developed in Cuba.

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uses terms that do not reflect a great esteem for the metropolis . . . He is a polite, erudite, and spiritual man, who speaks four or five languages with rare perfection.” Ernest Duvergier de Hauranne, “Cuba et les Antilles,” in Pérez de la Riva, ed., *La isla de Cuba*, 148, 166. Translation mine.


10 Lobo Montalvo, *Havana*, 120.
with Creole interests aligning with those of the Crown. The alliance allowed Spain to retain control of the island, which emerged as "the richest colony in the New World —likely richer than Spain herself," at a moment when it was losing all her colonial possessions. In turn, Creole planters profited from political stability and prevailing property relationships and, most importantly, retained the existing socioeconomic hierarchy. Furthermore, since the prosperity of Cuba depended on African slavery, both groups were unequivocally opposed to any attempt to alter or abolish the institution. As a consequence, sugar sustained colonial rule, and Spanish authority originated from within Cuba and from the planters' constant fight to protect slavery.

The Cuban Planters' Intellectual Enterprise and the Spanish Model

Creole planters were instrumental in deciding the architectural profile of their plantations, introducing the style of their preference and outlining the whole complex in such a way as to convey a statement of power, progress, and knowledge. Special attention was given to the design of the general layout, which became the Creoles' first urban proposal, the showcase of their technological enterprise, and the materialization of their own political dream based on rational order and a strict social and racial hierarchy. In addition, sugar mills also

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12 Carley, Cuba, 80.
14 Franklin W. Knight, Slave Society in Cuba during the Nineteenth Century (Madison: University of Wisconsin Press, 1970), 91.
became the Creoles' country palaces, where they retreated every weekend and summer, accommodating guests with great luxury and grandeur.\footnote{Creole hosted great fiestas for Holy Week, Corpus Christi, the first week of May (to celebrate the altars of the cross), and the beginning of the harvest (zafra). The term zafra refers to the sugar cane harvest, which usually runs from January through May. Francisco Pérez de la Riva, *La Habitación Rural en Cuba* (La Habana, Cuba: Editorial Lex, 1952), 93-95.}

Consequently, Creole planters were deeply involved in the design of their sugar mills, from the location of each building within the site to the choice of stylistic details. The Creole sugar planters' interest in their sugar mills' architecture is quite evident in the book *Los Ingenios*, which they commissioned and paid for, and whose main aim was to showcase the architectural and technical innovations of their estates. As was customary in colonial Cuba, the planters' decisions and ideas were passed to the *maestro de obras* (master builder), who drew the plans and supervised the whole construction, usually carried out by the estate's slaves. Even though Pérez de la Riva suggests that in some rare cases the designs and drawings were commissioned from an architect or engineer visiting Cuba, no names of architects have reached us regarding the design of Cuban sugar mills. The first school of architecture and engineering in Cuba was created in 1900 at the University of Havana thus, in the nineteenth century, architects were rare in the island, and the highest-ranking builder was the *maestro de obras*\footnote{Pérez de la Riva, *La habitación rural en Cuba*, 82. Carley, *Cuba*, 12.}.

Even though international influences, especially Enlightenment and Neoclassical designs, were quite relevant, as I will argue in chapter two and three, Cuban planters’ first and most appropriate model was the early colonial Spanish American architecture and urbanism. Not only was Spanish culture and tradition an essential part of their personality and consciousness, but also, they needed an architecture designed to impose power and social and racial hierarchy. In this sense, I believe that the Spanish colonial architecture and urban
planning, meant to subjugate a “colonized” mass and to send messages of political and racial power, were suitable models for the design of their sugar mills.

In her book *The Architecture of Conquest*, Valerie Fraser argues that in the first years of the American conquest, architecture was used by a handful of Spaniards to exert control over hundreds of thousands of non-European peoples. Throughout the continent, Spaniards founded new towns and cities with an "astonishing unity of purpose." Fraser argues that this "uniformity of appearance of colonial architecture and town planning imputes to the conquistadores a single-mindedness of purpose, and a confidence in their own rectitude which perhaps can go some way to explaining their extraordinary successes in America."20

Almost every Spanish American colonial city had a regular grid-plan, with straight streets, and a strictly ordered and symmetrical design. In Caribbean towns, a defensive wall usually surrounded the city as a distinctive element of the urban landscape introduced to protect against European armed pirates. In the center of the city was usually located the plaza, a central space housing the religious (cathedral or main church) and the political (governmental buildings) and military authorities (see figs. 1.1 - 1.2). In 1573, the New Laws of Indies stipulated "the plaza should be a rectangle" and "should not be less than two hundred feet in width and three hundred feet in length. A good proportion would be six hundred feet in length and four hundred in width."21 In the seventeenth century, Fray Buenaventura Salinas y

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Córdova, described the center of the city of Lima in these terms:

> There is a singular beauty in the floor plans and proportion of the plazas and streets, all the same . . . . The form and floor plan is a square of such order and harmony that all the streets are alike, wide enough to permit three coaches to move side by side, and so similar that from the main plaza one can see the city’s boundaries; because from the plaza and until the city’s edge, the long streets run like lines spreading from a circle . . . . All are beautiful because of their uniformity, wideness and rectitude.²²

Classical principles not only pervaded town planning but also early colonial architecture, which employed a classical vocabulary of columns, capitals, entablatures and pediments in a very austere manner. A series of round arched portals, usually known as colonnades, were also a defining feature of all Spanish American cities, usually fronting every building in the main plaza (see figs. 1.2 - 1.4). It constituted an architecture based on well-proportioned elements, rather than architectural decoration. Valerie Fraser argues, "it is about the bare bones of the classical architectural system rather than the decorative details."²³

According to Fraser, the authority of Classical architecture, rooted in ancient traditions going back to Vitruvius, became to be the clearest possible statement of the cultural and ideological values of the Spanish crown, a mark of progress and a sign of civility and of a civilized society. As Fraser states:

> One of the most striking aspects of the classical tradition in architecture and town planning is the way in which it has somehow managed to retain a monopoly on notions of civility and rationality . . . . The regular recurrence of the classical style and the grid plan town in situations of political and social control testifies to the strength of the tradition, or rather to the strength of people's belief in that tradition . . . .[T]he Spanish conquerors ( . . .) must have

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grasped the effectiveness particularly of the grid-plan town in reorganizing people's lives and in making them more accessible, more easily organized and controlled, as well as less strange and alien.\textsuperscript{24}

The church was also a powerful symbol of Christianity, and as the main building in the plaza was gigantic in scale, usually in astonishing Baroque style and elevated on a platform. "With their spires, they were everywhere the tallest buildings. Their towers held the first public clocks in the larger cities, which focused added attention upon them. Urban dwellers were constantly reminded of the Church's presence through the almost incessant ringing of bells . . . ." (see figs. 1.3 and 1.4).\textsuperscript{25}

The main plaza became "the embodiment of civilization as expressed through the church, town hall, the pillory and the prison—all of which were customarily found there."\textsuperscript{26} But assertions of royal and Catholic sovereignty and power were also reinforced through the uses of the plaza, in the form of the religious festivals, celebrations of a royal ascendancy or the arrival of a viceroy, and even through public hangings of criminals, which took place there. Main plazas even held a pillory where public whippings were carried out (see fig. 1.2).\textsuperscript{27} Colonial society's strict social and racial hierarchy was also proclaimed on countless occasions in the towns and cities of Spanish America.\textsuperscript{28} In his book, \textit{The Colonial Spanish-American City},

\begin{itemize}
\item \textsuperscript{24} Fraser, \textit{The Architecture of Conquest}, 159.
\item \textsuperscript{25} Kinsbruner, \textit{The Colonial Spanish-American City}, 52.
\item \textsuperscript{26} Richard L. Kagan and Fernando Marías, \textit{Urban Images of the Hispanic World, 1493-1793} (New Haven: Yale University Press, 2000), 34.
\item \textsuperscript{27} Kinsbruner, \textit{The Colonial Spanish-American City}, 122.
\item \textsuperscript{28} Colonial society was highly stratified, based on racial prejudice and sharp divisions, and composed by distinct socioeconomic classes. At the top stood the titled nobility and social aristocracy who were in charge of the government (known as the upper class, elite, or oligarchy). They were the socially and economically governing elite. Below the upper class was a middle class (usually \textit{mestizos},
\end{itemize}
Jay Kinsbruner argues that the socio-economic hierarchy was a fundamental urban characteristic in Spanish America, recognized and instituted by the Crown. This was clearly manifested in the assigning of building lots (solares) according to the socioeconomic status of each resident; the most important and noble ones receiving the ones closest to the central plaza. Segregated barrios were then set-aside for Indians or mestizos (people of mixed descent) within or around every Spanish urban center. The socioeconomic hierarchy was also manifested in the style and materials of the housing stock (see fig. 1.2). Kinsbruner states that,

... it is no surprise that in colonial Spanish America cities and towns alike displayed houses suitable to the wealthy, those middling, and the poor also. They ranged from the great and much remarked upon palaces and mansions of the wealthy, to more modest dwellings, and then to those of the poor, including what were more or less shacks. What is surprising is that away from the main plazas, but often not far away at all, there manifested a commingling of housing of varied quality in which people from more than one socio-economic level resided. Sometimes shacks held place on the same block as a mansion.

In Spanish America, the city and its architecture played a critical role in the conquest and colonization of Indians. In his book, *Urban images of the Hispanic World 1473-1793*, Richard L. Kagan argues that "the town in the Americas served as the mechanism through which the continent's indigenous population would be converted and acculturated or ‘ordered’ to the Spanish way of life." In 1650 Mexican church officials stated that "if Indians are truly to become Christians and civilized like rational men, it is necessary to congregate and organize them in towns and prohibit them from living scattered about and dispersed in the mountains..."

who were artisans or merchants), followed by the lower class composed by marginalized urban dwellers. Kinsbruner, *The Colonial Spanish-American City*, 125.


and hills.”32 The conquerors thus initiated a program called “reductions,” resettling America's indigenous population in urban settings in order to “hasten the natives’ conversion to Christianity and to acclimate them to a Spanish way of life.”33

Every one of these architectural and urban mechanisms used by the Spanish conquerors in the foundation of colonial cities throughout America were rescued, reinterpreted, and perpetuated by Creole planters in their sugar mills, this time adapted to serve an industrial, economic institution, and to bring to order and control “imported” African slaves.

**Neoclassicism in Cuba: Ceremonial Monumentality in Urban Planning**

Neoclassicism was the second most important stylistic influence for Creoles planters. The movement, introduced in Cuba in the 1750s, coincided with the economic bonanza brought by sugar. It was thus sponsored by the Creole elite as well as the Spanish monarchy, and had a prosperous development on the island. 34

Cuba’s sixteenth-century colonial cities, especially Havana, usually followed the Laws of Indies thoroughly, implementing a grid plan with a central Plaza de Armas, a strong Renaissance character in all the buildings, and a strict hierarchical stratification between the

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34 Felipe J. Préstamo y Hernández, *Cuba: Arquitectura y urbanismo* (Miami: Ediciones Universal, 1995), 55. See also Joaquín E. Weiss y Sánchez, *La arquitectura cubana del siglo XIX* (La Habana, Cuba: Publicaciones de la Junta Nacional de Arqueología y Etnología, 1960), ix-xi. Bishop Juan José Díaz Espada y Landa launched various projects, such as the new public cemetery, Cementerio General de la Habana in 1806, known as the Espada Cemetery. Weiss considers bishop Espada to be the one who introduced Neoclassicism in Cuba with the construction of this cemetery along Neoclassical lines and an elegant entrance portal conceived as a triumphal arch.
center and the periphery. By the 1750s, though, the city of Havana was remodeled to include a monumental civic profile and to house the official seats of the colonial governors (see figs. 1.5 – 1.10). The Neoclassical movement, in Cuba, was in fact a continuation and renewal of the early colonial Renaissance Classical principles. As such, the movement was rooted in a strict system of proportion, geometry, and functionalism. The same ideology of the foundational centuries was revived, and the use of the Neoclassical style was meant "to convey a sense of cultural achievement and an appropriate image of civic-minded dignity." According to Rachel Carley, the intention of late colonial urban renewals in Cuba was "to shape a powerful public face for the island."

The growth of old cities like Havana and the foundation of new ones due to the economic bonanza and the proliferation of the sugar empire brought a new approach to urban planning. It reinforced the ordered grid advised by the New Laws of the Indies, but "endowed it with a sense of ceremony and formal monumentality . . . . Broad, landscaped boulevards punctuated with formal statuary created definitive axes, while classically inspired public buildings brought a new scale to enlarged plazas" (see figs. 1.5 - 1.8). These Classical-inspired urban plans were launched throughout Cuba in the late eighteenth and early nineteenth century by a series of progressive governors as the new expression of the power of the Spanish monarchy. It coincided, however, with the growth of the sugar economy and the Creole's strong solidarity with French culture and Neoclassicism. Both groups joined forces to transform the

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36 Carley, *Cuba*, 86.

37 Carley, *Cuba*, 86.

38 Rachel Carley suggests that the dissemination of Neoclassicism could also be credited to the strong cultural influence of the thousands of French coffee and sugar planters who flowed into Cuba.
architectural and urban profile of the entire island, fusing the traditional Classical language of the Spanish conquerors with the new Neoclassical trend of French origins.

In Havana, Felipe Fondesvida, Marquis de la Torre, was responsible for the first works of urban infrastructure and for planning the first expansion of the city beyond the constraints of the walls. The Marquis's administration laid out the first boulevards outside the Havana walls—the Paseo de Paula and the Paseo de Extramuros—both landscaped according to the French school and remarkably open in nature (see figs. 1.5 and 1.6). De la Torre also refurbished the Plaza de Armas to include two important civic buildings: the Palacio del Segundo Cabo (1770) and the Palacio de los Capitanes Generales (1776-1791) (see figs. 1.8–1.10). Both buildings are characterized by their horizontality and majesty and by the elegant porticos with complex pillars fronting the plaza. They constitute vivid expressions of the power of the monarchy and "provided a sense of authoritative correctness to the cityscape" (see figs. 1.9 and 1.10).

A few years later, the Captain General Miguel Tacón embarked upon a farther-reaching program of public works. Tacón has been considered by more than one historian as the

after the 1791 slave rebellion in Haiti. In addition, Cubans traveling abroad brought back French books, French wine, and French music. Carley, Cuba, 20, 22, 83, 86, 92.

39 Felipe Fondesvida, Marquis de la Torre, governor of the city of Havana from 1771 to 1776.

40 Later renamed Paseo de Isabel II, Paseo del Prado, and now Paseo de Martí.

41 Lobo Montalvo, Havana, 79-80.

42 Carley, Cuba, 92. In the words of the Marquis de la Torre, they were meant to be "commensurate with the numerous population and the magnificent edifices being built by private citizens." Quoted in Lobo Montalvo, Havana, 96.

43 Tacón was Captain General from 1834 to 1838.
"catalyzing agent of the new urbanism" and the Neoclassical Havana as the Havana of Tacón. His numerous projects sought to endow the cityscape with a sense of unity engendering an integrated urban expansion. They were designed to express a new sense of order in the colony and were planned to create a unified streetscape with the use of porticos fronting the main streets. Porticos or arcades were a type of construction that first appeared in the eighteenth-century houses of Havana's nobility located in the main plazas (see figs. 4.32 and 4.34). In the nineteenth century, however, they became an essential element of Cuban architecture, included in every new construction to promote the unity and character of streets and plazas.

Specific projects commissioned by Tacón included the broad boulevards of the Paseo de Tacón (today the Avenue of Carlos III) and the Paseo del Prado Militar, characterized by their elegance and amplitude, and embellished by fenced rotundas with fountains, benches, and sculptures (see fig. 1.5). In addition, Tacón commissioned the new public prison (Nueva Cárcel), the Teatro Tacón (1836), the Real Casa de Beneficiencia for orphan children, and the Colon market, along with a cemetery, hospitals, schools and many other public buildings (see fig. 1.7). All these buildings follow a strict Classical language of straight lines, austere

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45 Carley, *Cuba*, 86. They encouraged the use of porticos as a means of communication between street and house, and as element of urban ornamentation. The portico already appeared in the first plan for the amplification of the city (1817) by Havana engineer Antonio María de la Torre. Lobo Montalvo, *Havana*, 125.

46 The Plaza Vieja is especially remarkable for the coherence and unity of its covered colonnades. The Casa del Marqués de Arcos was built in 1746 and the Casa del Conde de San Juan Jaruco in 1732. Lobo Montalvo, *Havana*, 78.

47 By 1861, the Building Ordinances of Havana dictated that arcades should be built in all the main plazas and along streets (*Ordenanzas de Construcción para la ciudad de la Habana y los pueblos de su término municipal*). Weiss, *La arquitectura cubana*, xlv.

48 According to Rachel Carley, "this broad, straight boulevard not only accommodated cavalry parades, but was also an expression of upper-class power." Carley, *Cuba*, 86.
monumentality, and rhythmic distributions of arcades and openings. 49

By the beginning of the nineteenth century, most Creole families escaped the densely populated city centers, and moved to the city outskirts. New elite districts like El Cerro and El Vedado appeared between the 1830s and 1840s with a new typology of houses, usually known as *quintas*, defined by their open areas, park-like gardens, and Classical colonnades arranged around an open courtyard (see fig. 1.11 and 1.12). 50

Not only was Havana transformed by the Neoclassical spirit but also new cities, such as Cárdenas, Sagua la Grande and Cienfuegos, were completely designed and conceived under the new trend. Founded in the nineteenth century as part of the progressive trend brought by the sugar revolution, they all adopted the strict grid-plan (*damero*), with broad and straight streets and avenues, a main plaza in the center (Plaza de Armas), and a homogenous character achieved through the omnipresent arcades. The Neoclassical transformation of the city of Matanzas, for example, was such that it became to be known as the “Athens of Cuba.” 51

In his book *La arquitectura cubana del siglo XIX*, Joaquín E. Weiss underlines the pivotal role of the Creoles in the architectural transformation of nineteenth-century Cuba. He argues that their entrepreneurial and adventurous spirit led them to found completely new cities or districts, which could serve their economic interests, or to create plazas and avenues in the existing ones. 52 In the 1850s, the Colombian Nicolás Tanco's description of the city of Havana underlines the different characters between the Creole's new districts and the more “Spanish”

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49 Carley, *Cuba*, 86.

50 Some important houses were the Quinta de Los Molinos (1837) and the Casa del Conde de Santovenia (1840s). Carley, *Cuba*, 86.

51 Weiss, *La Arquitectura Cubana*, ix; Carley, *Cuba*, 22, 86.

52 Weiss, *La arquitectura cubana*, lxvi.
. . . the city within the walls is composed of old buildings with purely Spanish houses and narrow and elevated sidewalks . . . . This part is old and the Spanish population mainly lives in it . . . . The contrary happens in the city outside the walls. The streets are beautiful, broad; the buildings follow the American style of low houses with wide windows, marble floors, furnished with elegance, and inhabited by the sons of the country and foreigners.  

Order and Processional Landscape in the Sugar Mill Layout  

The general layout of Cuban sugar mills implemented the same type of ceremonial landscape based on broad boulevards, ample plazas, and monumental architecture, unified by classical concepts of order, symmetry, proportions, and straight-angle geometries first implemented by the Spanish conquerors and later repeated by the Cuban Neoclassical projects of the late eighteenth and early nineteenth century. Just as the Spanish before them, though on a smaller scale, Creole sugar planters had to organize, control, and forcibly put to work a large non-European population, in this case imported African slaves. And just as their ancestors, Creole sugar planters planned their estates with a practical and functional spirit, but using strong architectural metaphors to express their power.

Also like the Spanish conquerors, there was an astonishing unity of purpose among Cuban planters for the general layout of sugar mills, all of them sharing the same architectural and urban principles. Sharing the same identity, fears, and practical spirit, Creole planters identified a type that could serve their purposes and repeated it throughout Cuba, with variations on scale according to each sugar mill's size. Reminiscences of the Creoles’ shared collective memory and inherited values (mostly Spanish), as well as their common fascination


54 Fraser, The Architecture of Conquest, 7.
with industrial and technical knowledge, pervaded every complex.

The Creole aspiration for order, symmetry and regularity was the result not only of a Neoclassical ideal, but also of a constant fear of a slave rebellion that could only be prevented by maintaining a controlled and tight environment and by making clear differentiations of a hierarchical nature. Thus, the careful positioning of the different structures within the site and its differentiations through materials and constructive techniques are conscious manipulations of the built environment on the part of the planters, meant to control the actions of enslaved workers, to exercise surveillance, and to guarantee the slaves' subordinate status.  

In addition, the chosen ceremonial and ordered landscape surpassed practical considerations and was meant to present an image of "great taste, opulence and grandeur," in Justo G. Cantero's own words, especially directed to Spaniards (Peninsulares) and fellow sugar planters. An ordered landscape was a mark of cultural, economic and industrial progress as well as a sign of civility, both messages needed to counteract the harsh critics on the brutality and backwardness of slavery. In addition, the Creole aspiration for regularity, symmetry, and order was meant to convey their capabilities to rule their lands and destinies, showing to the Spanish government and the world that their domains were as civilized and ordered as those


57 As I explained in the Introduction, the sugar revolution reinforced an existing tension between Peninsulares (Spaniards born in Spain) and Creoles planters.
founded by Spain in the New World. Cantero uses an illuminating interpretation in the book

*Los ingenios*, stating:

> Because of their regularity and symmetry, from a certain distance the numerous factories appear to the traveler like some of those pretty European manufacturing towns. One is thus surprised even more pleasantly because the preconceived idea one has of those kinds of establishments in the tropics would hardly contain the life, order and industriousness that are hallmarks of the old world.58

The carefully ordered layout of each sugar mill was thus meant to counteract the misguided idea of the “backwardness” of the New World, showcasing to the world the “achievements” of Creole Cuba.

As a small village or town, the sugar mills had four functional areas: the agricultural spaces (or cane fields), the spaces of production (comprised by the mill, the purging house and the boiling house); the domestic spaces (houses for owners, white laborers, and slaves); and the auxiliary spaces to provide food, commodity production and medical care (kitchen, infirmary, carpentry and blacksmith' workshops, stables, etc.). Lastly, the open or transitional spaces such as the *batey*, open plazas and roads (*guardarrayas*) structured the whole complex and facilitated circulation and open-air activities.

The architectural space of the *batey* and all the domestic and industrial buildings seem minuscule in the context of the entire land property. Agricultural spaces or cane fields were in fact the protagonists of the estates, and topographic maps of the period testify to the mathematical precision of their internal divisions (see figs. 1.13 and 1.14). The size of the cane fields was ruled by the contour of the land and it was carved out in large rectangles 333 yards long —a measure generally known as “square.” According to Manuel Moreno Fraginals, by the nineteenth century and as sugar mills grew in size, the cane fields were reduced, usually

measuring between ¼ and 1/8 caballería. The architectural complex was usually located at a centric location within the estate, and the guardarrayas, “or spaces between the fields for roadways or fireguards,” diagonally irradiated from this center to each corner of the estate. In turn, the resulting spaces were divided into smaller rectangular pieces (see figs. 1.15 and 1.16). Pedro Celestino del Pandal’s drawings of the general layout of the San José and Santo Domingo sugar mills, both belonging to Domingo Aldama and located in Matanzas, reveal the Cartesian order and mathematical precision characteristic of the cane fields divisions. The only organic lines in the entire landscapes are the ones representing the rivers traversing both estates.

For the architectural complex of the sugar mill, the two most common organizing principles are the centralized and linear schemas. In the centralized schema the composition is usually symmetrical, with the mill and boiling house occupying the center and the rest of structures carefully organized around it (see figs. 1.17 and 1.18). In the linear composition, the mill and boiling house also occupy the center, but the main organizational element is the ceremonial road, which creates a powerful axis, with all the structures evenly distributed along it (see figs. 1.19 – 1.22). In both schemas, there is no room for organic or winding roads, and the overall layout follows a regular, strictly Cartesian plan.

The centralized and symmetrical layout, with its consequent regularity and orthogonality, is convenient and practical because it allows time-efficient transportation. This was particularly important because of the sugar mills' structured routine and timely activities,

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60 The guardarrayas were 7 yards wide, except for those bounding the estate itself, which were twice that width. Moreno Friginals, The Sugarmill, 87.
which required proximity between sleeping and working quarters, and between the fields and factories. In addition, this type of layout also favors confinement and a tighter control over the spatial landscape. In the floor plans of the La Ponina and Armonía sugar mills, located in the provinces of Cárdenas and Matanzas respectively, and included in the book *Los ingenios*, the entire complex is contained within a square lot, with twelve roads radiating to the surrounding cane fields: four leading out diagonally from the corners, and two more leading out at right angles from each side (see figs. 1.17 and 1.18). The roads are evenly spaced out and of equal width, contributing to the regularity and symmetry of the entire composition. In both sugar mills, the Greek-cross floor plan of the boiling house solemnly stands at the center, like a temple. The boiling house is surrounded by an all-embracing open space, with the varied structures aligned orderly on three sides. The distribution of the different buildings is also identical in both cases: the purging house located at the right, the slave barracks at the left, and the *casa de vivienda* (house of the owner) and nursery in the front of the boiling house.\(^{61}\)

The second most common form of organization used in Cuban sugar mills is along a main axis, often established by a broad boulevard that functioned as the access road aligning the different structures on both sides (see figs. 1.21 and 1.22). This schema does not directly foster the economy of time, since linear organization usually requires longer distances, but it fosters a ceremonial and processional landscape, similar to that implemented throughout Cuba through broad avenues and boulevards.\(^{62}\) In addition, this layout favors visual surveillance, since the main axis functions as an uninterrupted line of vision. This type of processional

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\(^{61}\) To the north are located the purging house, warehouses, kitchen, bagasse houses, and tile factory; to the east, the main house, infirmary and carpenter's workshop; and to the south, the slave barrack, another warehouse, and a second bagasse house (see figs. 1.17-1.18).

landscape was implemented since the early sugar mills of the eighteenth century, as attested by the topographic plan of the sugar mill belonging to Don Manuel González Villaroel, and drawn by Juan Aguilar in 1798. In this drawing, a clearly demarcated processional avenue leads to the batey, strategically located at the center of the estate (see fig. 1.13).

A linear organization and processional boulevard is also noticeable in Eduardo Laplante's lithographs of the Flor de Cuba sugar mill in Cárdenas and the Manaca Iznaga sugar mill in Trinidad (see figs. 1.19 and 1.20).\(^6\) The rendering of diminutive carriages, horses and ox-pulled wagons underlines the amplitude of the avenue, while the palms and fruit trees framing the sides mark its grand, ceremonial aspect. The road seems to overcome the roughness and wilderness of the landscape, with its slopes and streams, until triumphantly arriving at the flat, organized, and “domesticated” terrain of the batey. A commanding view is particularly characteristic of the Flor de Cuba, with the lake, bridge, and beautiful, cultivated gardens to the right. In both cases though, the ceremonial road leads directly to the central opening or batey in front of the boiling house, where it deviates its course to reach the casa de vivienda (e.g., Manaca Iznaga, fig. 1.20) or the slaves' barracks (e.g., Flor de Cuba, fig. 1.19).

Although not shown in the pictures, several authors such as Justo Germán Cantero, Frederick Townshend, and Samuel Hazard, mention the presence of gates, suggesting the possibility that an enclosing wall surrounded many complexes.\(^6\) In the Intrépido sugar mill in Cárdenas, for example, Cantero states that the entrance was marked by "a beautiful gate with

\[^6\] In addition, when describing El Narciso sugar mill in Cárdenas, Cantero mentions a processional landscape "with a central guardarraya of coconut palms." Cantero and Laplante, *Los ingenios*, 214.

rounded arches and an iron fence adorned with designs, reached by a pleasing guardarraya of 40 varas of length, sown with palms and fruit trees." These portals would have certainly contributed to the ceremonial tone of the processional landscape. Two photographs from the 1950s archive of Josefina (Fifi) Tarafa, now in the Archivo del Consejo Nacional de Patrimonio Cultural (Archive of the National Council of Cultural Patrimony), portray similar processional roads leading to the sugar mill Unión, in Matanzas, and framed by dense trees and royal palms (see fig. 1.23).

Another less common layout configuration was adopted in those ingenios located on uneven terrains, which according to Cantero, "constitute an obstacle to production but give great beauty to the site." Only two cases are represented in the book Los ingenios: the San Jose (a) La Angosta sugar mill in the Vuelta Abajo region and the Buena Vista sugar mill in Trinidad (see figs. 1.24 and 1.25). In both cases the main house is located on the highest ground, looking at the entire valley and complex. In the San José (a) La Angosta sugar mill in Güanajay, the slaves' huts or bohíos are also located in elevated terrain (a contiguous hill), while in the Buena Vista their houses are on the foothill. In both sugar mills, the industrial buildings are placed on flat terrain. The irregular landscape and the linear configuration of the Buena Vista sugar mill confers to the whole a clear pyramidal structure in which the owner is at the zenith, commanding his dominions and enjoying the awe-inspiring views (see fig. 1.47).

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65 Cantero also mentions an iron gate in the Güinia de Soto sugar mill in Trinidad. Cantero and Laplante, Los ingenios, 137, 231. Translation mine. A vara (meaning "rod" or "pole") is an old Spanish, Portuguese, and Latin-American unit of linear measure varying from about 81 to 109 centimeters (32 to 43 inches).

66 Cantero and Laplante, Los ingenios, 256. Translation mine.

67 Such are the cases of the Buena Vista and San José (a) La Angosta sugar mills. The ingenio Buena Vista in Trinidad owes its name to the "beautiful view" available from the casa de vivienda. Cantero and Laplante, Los ingenios, 256.
The overall outline exudes a Cartesian beauty in which the three functional areas are perfectly demarcated: the area of production (on the foreground), the slaves' dwelling (on the skirt of the mountain on middle ground), and the main house (at the summit) all organized with great care and precision (fig. 1.24).

In all of Eduardo Laplante’s lithographs an ideal of strict and hierarchical order pervades the general layout of Cuban sugar mills. The images are conveniently complemented by Justo G. Cantero's words, which also underline attributes such as mathematical precision, symmetry, tidiness, and harmony.68 He mentions the “good impression” that the factories made on any visitor because of the "order and perfect placement" and "the unity of the layout’s distribution."69

The converging element, the center and organizing point of the whole complex, was the batey, an Indian word that refers to the central plaza in Taíno villages.70 The batey was the gathering place par excellence, where all the open-air activities were performed (stacking the cane and the bagasse, feeding the mill and the kilns, drying the sugar loads, etc.). The batey was also the starting and ending point of all roads leading to the cane fields.71 Usually of square plan, the batey can be considered a productive unit of the ingenio, and its dimensions ranged

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68 Cantero and Laplante, Los ingenios, 131 (Santa Teresa (a) Agüica), 179 (Armonía), 154 (Monserrate), 233 (Intrépido).
69 Cantero and Laplante, Los ingenios, 244 (Flor de Cuba). Translation mine.
70 The batey was used by the Taínos (pre-Columbian population of the island) for social, political, and religious activities, such as ceremonies called aretíos (chants and dances) or for the performance of the ball game. After the conquest, the Spaniards adopted the word to refer to the center of a village or hacienda. Pérez de la Riva, La habitación rural en Cuba, 7-8; Alicia García Santana, Trinidad de Cuba: Ciudad, plazas, casas y valle (La Habana, Cuba: Consejo Nacional de Patrimonio Cultural, 2004), 239.
71 Pérez de la Riva, La habitación rural en Cuba, 7-8.
from 1 to 14 *caballerías* (depending on the overall size of the sugar mill).\(^72\) Due to its centrality, size, and openness, the batey allowed the constant supervision of slaves by owners and overseers.

Despite the indigenous connotation of the word and space, the concept of a central opening as the “seat of power” is comparable to the Spanish-American main plaza. Just as in the Spanish model, the batey had at its center the main structure of the sugar mill’s town: the boiling house, which stands out as the most prominent, large, and central building of every site. Describing in 1865 the San Martín sugar mill (fig. 1.21), located in the province of Cárdenas, H. B. Auchinloss states,

\[\ldots\] one recognizes the Spanish model of a village, a grand square or plaza, and streets running off at right angles from every side. The mill and boiling house are, of course, the most prominent buildings on this great square . . . . To the right of the mill is the “*barrancón*” or slaves' housing . . . . It occupies the entire side of the square . . . . The southern side is occupied by the houses of the administrator, the engineers and sugar masters, the hospital and beautiful gardens stretching for several hundred feet to their rear. To the east are the sawmill, tool-shops, and other buildings.\(^73\)

In some cases, Creoles altered and even inverted the concept of the colonial plaza by locating the main building on the site—the boiling house—at the center of the complex instead of at the side, as was the Cathedral (see figs. 1.17 and 1.18). Open spaces, thus, completely surround the building, emphasizing its centrality, monumentality and importance, while the rest of the structures are evenly and regularly distributed on the four sides.\(^74\)

\(^72\) The *batey* of the Santa Teresa (a) Agüica sugar mill in Cárdenas measured 14 *caballerías*, while the *batey* of the ingenio Armonía, also in Matanzas, measured one *caballería*. Cantero and Laplante, *Los ingenios*, 129, 177.


\(^74\) This is the case of the Tingüaro, Purísima Concepción (a) Echeverría, Monserrate, Intrépido, La Ponina, Acana, and Armonía sugar mills.
model, the center is built and compact rather than void and empty.

In most cases two main open areas are noticeable, each having distinct functions: a productive batey at the front of the boiling house and a dwelling batey in front of the slaves’ houses, either barracks or bohíos, as in the cases of Güinía de Soto and Unión sugar mills (see figs. 1.26 and 1.27). As can be noted in both lithographs, the two open spaces are clearly separated by the monumental boiling house in the center. In the Güinía de Soto sugar mill (fig. 1.26) the batey in the foreground constitutes the productive unit, where slaves and cane-filled carts approach, while the batey on the back serves to organize the slaves’ bohíos. In the Unión sugar mill (fig. 1.27), the two open spaces are located at the right and left of the picture, with the boiling house in the center and at the far left the barric building.

**Chimneys, Towers, and Portadas: Monumental and Vertical Icons**

The sugar mill complexes usually have a horizontal profile, allowing the vertical silhouette of chimneys and bell towers to become iconic elements announcing the presence of an estate from afar and guiding the visitor through the monotonous, seemingly infinite, expanses of sugar cane. Chimneys were meant to spew the smoke from the ovens and the steam from the pans and evaporators, but they also became a symbol of the Cuban countryside in the nineteenth century, distinguishing one sugar mill from its neighbors. Regarding the San Martín sugar mill’s chimney, H. B. Auchinloss mentions: “Approaching the estate of San Martin from the railroad, the size and height of the chimney attract immediate attention, it being 23 feet in diameter at the base, and rising to the height of 180 feet.”

Normally, each sugar mill had between 4 and 10 chimneys of different heights and

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75 Auchinloss, "Sugar Making in Cuba," 444.
widths, and with a square or circular section (see figs. 1.20 and 1.28). In some cases, like in the Unión sugar mill in Cárdenas, one monumental chimney, centrally located, became the icon of the batey (see fig. 1.27). On other occasions, the iconic element is the bell tower.

Bells were used in the sugar mills to summon the slaves, to regulate the daily schedules, and to time different activities, and they were located in the batey at a strategic point between the slaves' housings and the factories. In the majority of ingenios, a special iron structure was built to house the bells, usually consisting of a stone base, a tall iron post, and a circular gazebo with railings, supported by ménsulas (corbels) and covered by a dome (see fig. 1.29 – 1.31).

In some sugar mills, planters took great care and effort to design monumental and impressive towers that went well beyond their practical function. Their verticality and the complexity of their design became symbols of power representing the owner's stature in the sugar industry and local society. This is the case of the Manaca Iznaga bell tower, the most remarkable element of this sugar estate and the tallest structure of Cuba by the time of its construction in 1826, being 180 feet and seven stories tall (see fig. 1.32). The design is almost Baroque in its complexity, with the first four levels having a square plan and the following three a hexagon one, ending with a conical crown. Each level had beautiful arches, Doric pillars and columns, and iron balustrades. According to popular tales, the tower was the result of a rivalry between two Iznaga brothers, the owners of the Manaca Iznaga and the Güaimaro sugar

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76 In this ingenio, the round chimney measured 10 feet high, with an interior diameter of 3 varas. Cantero and Laplante, Los ingenios, 185.

77 A similar iron structure appears in the Tingüaro, Intrépido, Trinidad, Flor de Cuba, Monserrate, El Narciso, San Rafael, Amistad, and Ácana sugar mills.

78 Pérez de la Riva, La habitación rural en Cuba, 12.

79 García Santana, Trinidad de Cuba: Ciudad, plazas, casas y valle, 264.
mills, both in the Trinidad province. Edwin F. Atkins, visiting the island at the end of the 1860s, relates the “competition” in these terms:

Many of the Yznagas, for instance, were peculiar. One of them built a massive stone tower, still standing on the Manaca Estate, which was to be high enough to give him a view of the sea over the intervening hills. . . . His brother, not to be outdone, declared he would dig a well at Las Bocas, as deep as the Manaca tower was high; and he had, at least, a useful well to show for his pains.  

Impressive towers were also the protagonists of the ingenios San Isidro de los Destiladeros in Trinidad and Intrépido in Cárdenas, the first following a Neoclassical style (with semi-circular arches and corner pillars) and the second, stylistically eclectic, resembling a pagoda, that was probably a result of the influence of the Chinese laborers who were quite numerous in the region (see figs. 1.33 and 1.28). In all cases, the inclusion of these vertical elements of elaborate designs and styles, were meant to differentiate each complex by becoming iconic features, often referring to the power of each owner and his economic status within the Cuban sugar industry.

In other cases, the bell tower was located in the main façade of the barrancones or slave barracks. The barrancones (further analyzed in chapter three) were a housing structure for the slaves that became quite popular in the sugar mills of Havana and Matanzas during the nineteenth century. Usually one of the largest buildings on the site, it consisted of a system of

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81 This three-story tower measures 14 meters high. Its semi-circular arches were originally open on every side. Decorative details include the small corner pillars and the quarter-round eaves courses projecting over each level. Roberto López Bastida, Nancy Benítez Vázquez, Lizbeth Chaviano Pérez and Víctor Echenagusía Peña, *Trinidad y el valle de los ingenios: Guía de arquitectura, An Architectural Guide* (Trinidad, Cuba: Asamblea Municipal del Poder Popular de Trinidad; Sevilla: Junta de Andalucía, Consejería de Obras Públicas y Transportes, Dirección General de Arquitectura y Vivienda; Madrid: Agencia Española de Cooperación Internacional, 2003), 218.

82 Lisette Roura Alvarez, “El Bohío: Vivienda Esclava en las Plantaciones Cubanas del Siglo XIX,” *La Jiribilla: Revista de Cultura Cubana* (September, 2007), 9; Pérez de la Riva, *La habitación*
cells organized around a central patio, with only one entrance to the front (see figs. 3.23 – 3.25). This entrance was usually emphasized through towers and monumental *portadas* (façades) that, along with chimneys and bell tower, constituted important vertical icons in Cuban sugar mills.

In Matanzas, the most impressive towers crowning the entrances to slaves barracks were the ones of the Álava, San Joaquín, and San Martín sugar mills (see figs. 1.34 - 1.36 and Appendix 3). The three of them had a monumental triumphal arch functioning as the entrance, with a three-story tower on top. The tower, crowned by a dome, held the bells and clocks of the sugar mills. Other more modest towers also characterized the slave barracks of the ingenios La Luisa, Algorta, Saratoga and Cuba Libre, as exemplified in fig. 1.37 and Appendix 3.

The *portada* was another important aesthetic composition that adorned this otherwise austere and functional building. It consisted of a two-story high, Neoclassical composition of monumental columns and arches, pediments or triangular roofs, and sometimes balconies emphasizing the main, and only, entrance of the barracks (see figs. 1.38 - 1.42). Similar portadas and towers were the distinctive feature of Andalusian haciendas of the seventeenth and eighteenth century, which constituted the first, original model for New World's plantations exported to the mainland, especially to Mexico. Southern Spanish haciendas shared with the Cuban slave barracks not only the monumental entrance (*portada*) and towers, but also the

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83 Pérez de la Riva mentions that slaves barracks were located as far as possible from the main house to avoid bad odors, the screams of punishments, blasphemies of overseers, and dogs barking. Pérez de la Riva, *La habitación rural en Cuba*, 66.

84 Repeatedly, Cantero underlines the slave barracks’ “elegant façades” and their monumental, Neoclassical portals, which granted the buildings a “good appearance.” Cantero and Laplante, *Los ingenios*, 185, 196-97.
floor plan structured around a central patio and the white, closed, masonry walls (with few openings) (see figs. 1.43 - 1.45). These similarities once again relate to the Spanish heritage of Creole planters, demonstrating not only their concern and interest in architecture and styles but also their choice of Spanish models when conveying messages of power through architectural aesthetics.

Hierarchical Segregation of Domestic Spaces

The running of a sugar mill also depended on a strict hierarchical organization of labor, which was based on racial divisions. The plantation owner was at the top of the social ladder, followed by the few whites who held management positions (the administrator, mayoral or overseer, maquinista or engineer, and doctor), and at the bottom, the slaves and Chinese laborers. One of the most effective methods to convey this social and racial hierarchy was the architectural distinction of living spaces, through location, dimension, materials, and styles or ornamental details.

The great abyss was established between the living quarters of planters and those of slaves. The rest of white employees lived in intermediate quarters, resembling the planters’ house in its general distribution but differing in size, materials and location. Using a strategy of contrast, the planter's houses, called casas de vivienda, were almost always the largest residential buildings on the site, the ones most beautifully decorated and built with non-perishable materials.\(^{85}\) Sometimes, they became real mansions, big enough to house numerous families, such as in the cases of the San José (a) La Angosta, Armonía, and San Rafael sugar

mills (see figs. 1.46, 1.18 and 1.48).³⁶

In linear layouts, the casa de vivienda occupies a prominent place, at the end of the processional road after passing the factories,³⁷ or on the highest ground looking over the entire valley and complex (such as the Buena Vista and San José (a) La Angost a sugar mills, figs. 1.46 and 1.47). Both locations signify power. According to Thomas A. Markus, “depth indicates power,” the person with the greatest power usually being located “at the tip of a tree, reached through corridors, stairs, outer and inner offices and lobbies.”³⁸ Both locations, at the end of the processional road and on the highest grounds, are at the tip of the pyramid, forcing the visitor to survey all the property before arriving to the master's quarters. These positions were also intended to dominate the landscape with a commanding view of all their belongings. The extraordinary sights usually impressed visitors. John Glanville Taylor, visiting the sugar estate of Santa L., near Güines, in 1851, recalls,

The manager's residence was beautifully situated on an eminence of about fifty feet high, the only one in the clearing, and from the verandah up stairs was certainly a view hardly to be equaled, I dare say, any where else. In front, the sea; at a distance of two miles, but between it and the hill, and extending wide on either hand, more than a square mile of canes, all divided into smaller partitions, by neatly kept roads, cultivated, except in crop time, with peas, corn, sweet potatoes and other smaller crops. A sight of this enormous extent of canes, of the brightest verdure . . . and the whole gracefully waving to the force of the North-east trade wind, is a sight, which once seen, could surely never be

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³⁶ The biggest houses in Cantero’s selection are the ones of the San Jose (a) La Angosta, San Martin, San Rafael, Monserrate, and Armonía sugar mills. According to Cantero, the Armonía’s main house measured 52 x 60 varas (yards), had an interior patio, a façade with 13 arches, English gardens on both sides, an extensive grove on the back along with a coach-house and stable for 22 horses (see fig. 4.4).

³⁷ Such are the cases of the Manaca Iznaga, Ácana, Trinidad and San Rafael sugar mills (see fig. 1.20).

³⁸ Markus, Buildings & Power, 17.
forgotten.\textsuperscript{89}

However, in centralized layouts (the center being occupied by the boiling house), the main house was not emphasized by its location, but rather by a series of fences and gardens that physically separated it from the surroundings. The inclusion of impressive gardens was not only meant to isolate the house but also to underline the beauty, grandeur, and formality of the overall ceremonial landscape. The gardens of the San José (a) La Angosta sugar mill were described by Cantero as magnificent English gardens "with tall trees forming a long and straight boulevard" that marked the entrance to the house and were punctuated by a pond, classical sculptures and benches (see fig. 1.46).\textsuperscript{90} House and garden usually constituted a unit, like a little Versailles, the garden usually having a botanic value, because of the cultivation of rare and exotic plants.\textsuperscript{91} In La Ponina sugar mill in Cárdenas, for example, Cantero mentions there were more than 12,000 fruit trees at the back of the house (see fig. 1.52), and in Tingúaro sugar mill in Cárdenas, Eduardo Laplante depicts a dense grove almost hiding the main house.\textsuperscript{92}

One of the most well known gardens was the one of the Buena Vista hacienda in Trinidad, which according to Cantero’s description, was “circular and stepped, forming an amphitheater, supplied with a water pump, capable of elevating the water to the necessary height.”\textsuperscript{93} The garden’s design seems like a bell, drawn by a tree line whose jump ring was at


\textsuperscript{90} Cantero and Laplante, \textit{Los ingenios}, 256. Translation mine.

\textsuperscript{91} García Santana, \textit{Trinidad de Cuba: Ciudad, plazas, casas y valle}, 246.

\textsuperscript{92} Cantero and Laplante, \textit{Los ingenios}, 221.

\textsuperscript{93} Cantero and Laplante, \textit{Los ingenios}, 201.
the main entrance. From this point, the trees opened up on both sides. In the center, a road led to the house’s main entrance with a great ceremonial grandeur (see fig. 1.47). In some cases, a fence of wooden posts or masonry pillars also served as visual barriers to protect the house and grant privacy and autonomy from the rest of the complex, as can be noticed in the San José La Angosta and San Rafael sugar mills’ main houses (see figs. 1.46 and 1.48).

In addition to Eduardo Laplante’s images, nineteenth century Cuban artists from the Romantic school of landscape, depicted sugar mills in a similar manner. The casa de vivienda is always recognizable by its size, its distant location, or the series of fence and gardens that separates them from the batey and industrial facilities (see figs. 1.50 - 1.51). In figure 1.50, an oil painting from an unidentified artist, the casa de vivienda to the left, is located on higher ground and surrounded by a wooden fence. In the oil painting of figure 1.51, the casa de vivienda to the right is isolated from the batey and factories not only by a fence but also through tall and dense vegetation.

The last and most effective strategy used by Creole planters to mark their status was the use of sturdy materials and beautiful porticos that added a solid and monumental appearance. The most common feature among Cuban sugar planters' houses was the inclusion of a frontal gallery or portico consisting of three to seven semi-circular arches supported by squared pillars, with a flat roof and ample cornice, following the Classical style that characterized the Spanish


95 Such are the cases of the Intrépido, Unión, and Tingüaro sugar mills. Fences were also registered in the photos of the Cuba Libre and Fructuoso sugar mills’ main houses in Matanzas province and in Chartrand’s painting of the Tingüaro main house, all in Alberto Perret Ballester, El azúcar en Matanzas y sus dueños en La Habana: Apuntes e iconografía (La Habana: Editorial de Ciencias Sociales, 2007), 89, 93, 107.
early colonial architecture around the main plazas (see chapter four, figs. 4.32 - 4.34). In most cases, these porticos were built with *mampostería* or masonry walls, one of Cuba's most solid and durable constructive techniques, introduced by the Spaniards in the sixteenth century.96 Masonry walls and arches served to differentiate the planter's house from the rest of the buildings, whose galleries were usually built with wooden posts and hipped roofs.97 The arcaded façades were an architectural element adopted and repeated by most Trinidad planters, and still visible today in the ruins of La Pastora, San Isidro de los Destiladeros, Güinía de Soto, San José de la Cruz, Magüía, Delicias, Manaca Iznaga, and Güaimaro sugar mills (see figs. 4.9, 4.11, 4.14, 4.29 – 4.31 and 4.37 – 4.40).98

This Spanish-style façade with its masonry walls and arcades (complemented by the elaborate gardens) were intended to grant visual prominence to the main house, by establishing a sharp contrast with the houses of the other white employees. The house of the administrator followed in size and privileged location. Since he ran the industry in the owner's absence, his house was particularly important (although not much information is available about it). In the book *Los ingenios*, the floor plan of the San Martín and La Ponina sugar mills, both in

96 Masonry walls were made out of stone, rubble and lime-based mortar. This material was also used in the sugar mills' factories.

97 According to García Santana, most of the sugar mill houses had in the beginning a simple construction (made of *embarrado* and guano) with wooden posts galleries. In the case of Trinidad, most of the houses were transformed to fit the new design (with the introduction of the arched porticos) in the first half of the nineteenth century. The houses of the Manaca Iznaga, Güaimaro, and Magüía sugar mills were transformed in the decade of 1830. In the area of Havana-Matanzas, this same model was implemented in the main houses of Conchita and Triunvirato sugar mills. García Santana, *Trinidad de Cuba: Ciudad, plazas, casas y valle*, 237-246, 244; López Bastida et. al., *Trinidad y el Valle de los Ingenios*, 213-231, 258; Pérez de la Riva, *La habitación rural en Cuba*, 82.

98 The only two exceptions, with wooden posts instead of arches, are the main houses of the Algaba and Cañamabo sugar mills. García Santana argues that this solution was more common in the houses of stock-breeding ranches, but rare in sugar haciendas. García Santana, *Trinidad de Cuba: Ciudad, plazas, casas y valle*, 237-246. 244; López Bastida et al., *Trinidad y el Valle de los Ingenios*, 228-229.
Cárdenas, suggest the prominence of this house, whose locations and dimensions are similar to the casa de vivienda (see figs. 1.17, 1.21 and 1.52). In the case of La Ponina sugar mill, the administrator’s house is located in a strategic point between the house of the owner and the slave barracks, in close proximity to the bell tower. The floor plan suggests several ample rooms with a modest garden on the front and the back (see fig. 1.52).

Next in size were the houses of the mayoral, the maquinista, and the maestro de azúcar (sugar master), represented by Eduardo Laplante in the floor plans of the ingenios La Ponina and San Martín (see figs. 1.17 and 1.21). In the case of the San Martín, the house of the mayoral is located between the casa de vivienda and the slave barracks and features an L-shape floor plan (see fig. 1.21). In La Ponina sugar mill, the house of the maquinista and maestro de azúcar is rendered in close proximity to the boiling and purging house, with a rectangular, symmetrical floor plan, with a gallery in the front (see fig. 1.17 and 2.3). A similar layout is drawn by the architect Pedro Celestino del Pandal, in the layout of the mayoral house of the Santa Susana sugar mill, in Matanzas. The house, of modest dimensions, has a rectangular floor plan with two parallel bays, with three main rooms on the front and three smaller rooms on the back (see fig. 1.54).

A common feature among all the white employees' houses (including the owner's mansion) was the rectangular and strictly symmetrical floor plan, consisting always of two parallel bays with a gallery at the front (see Appendix 4).99 However, the decreasing size, less-privileged location and use of wooden posts with hipped roofs instead of masonry walls and arcades, established the difference between the master and his employees.

99 See chapter four, “The Casa de Vivienda’s Response to the Landscape: From the Patio to the Gallery House.”
A good example of the decreasing status marked by architectural elements is illustrated in the San José (a) La Angosta sugar mill, in which the main house is at the top of the mountain, with monumental gardens and huge scale (see fig. 1.25). It was followed by the house of the administrator organized around a central patio, with a small garden and modest, good dimensions. In Laplante’s lithograph, this house is in the foreground, in the middle, and the wooden posts and hipped roofs are noticeable (see fig. 1.53). Lastly came the agglomeration of the small bohíos, at the right, in the background, built with perishable materials and represented with thatched roofs.

The bohíos were one of the two main housing typologies developed for the slaves in Cuban sugar mills and they constituted the direct descendants of Taíno houses. Usually having a rectangular floor plan, with one or two rooms, an entrance door and few openings, the bohíos were built with wooden walls (or royal palms), earthen floors, and palm-thatched roofs (see chapter four, fig. 4.73). The adoption of the Taíno-derived bohíos made of perishable materials was certainly a perpetuation on the part of Cuban planters of the long Spanish tradition of segregating class and race by the materials used, usually palms and dirt for the lower classes or Indians (later slaves) and stone and mortar for Spaniards (later Creoles).

Until the eighteenth century, the distribution of the bohíos did not follow any given order (such as in the San José (a) la Angosta sugar mill, fig. 1.25) and the owner just determined the slaves' area. After 1750 though, with the increase of the slave population, bohíos began to be allocated in regular and geometric patterns. Several types of


organizations are represented in Eduardo Laplante's lithographs: two or three parallel rows facing an open space (Intrépido and Güinía de Soto sugar mills, figs. 4.75 and 4.77) or forming streets (Amistad, Manaca Iznaga and Buena Vista sugar mills, figs. 4.74, 4.76 and 4.78). This careful organization added a sense of repetition, rhythm and order to the general layout.

The use of a grid not only facilitated surveillance and quick and easy circulation, but also contributed to achieving a rigorous order throughout the property (see figs. 1.24, 1.26 and 1.28). This was a sign that the planters' domains were controlled and planned, with no room for improvisation, an idea further reinforced by the definition of clear and definite boundaries established by a fence used to enclose the slaves' village (see chapter three, fig. 3.12 and 4.76). Usually made of wood, their purpose was merely to establish a visual barrier and clearly delimit the slave's territory.

At the beginning of the nineteenth century, the barrancón or slave barracks were adopted as a new housing typology, more adequate to confine the slaves and achieve better surveillance (see chapter three). Even though barracks were built with masonry and tiles, had monumental portadas, and were often the largest building on the site, the slaves’ living conditions worsened, and their social status decreased. They were no longer able to inhabit a house, but only a single cell, as if they were prisoners. These cells, of reduced dimensions, only had one door opening to the interior courtyard and one small window, with iron grilles, looking to the exterior.

Lastly, a further racial and gender segregation was implemented through the allocation of separates wings for men, women, or Chinese workers, within the barrack building (see

^102 See chapter two, “Surveillance and Restricted Movement in the General Layout.”
chapter three). In some cases, as in Matanzas' sugar mills where Chinese laborers were quite numerous, a second barrack was built to house them, although with an identical floor plan. In La Ponina and Tingüaro sugar mills, an independent, rectangular structure in the north of the property was reserved for the Chinese workers, further emphasizing racial segregation (see fig. 1.17 and 1.55).103

Conclusion

Throughout my study I have identified numerous similarities between the general layout of Cuban sugar mills and the urban principles of the Spanish Colonial American cities of the sixteenth century. The analogies are plentiful: the batey resembles the main plaza; the cathedral is now the boiling house, proudly at its center; the chimneys and bell towers taking the place of the church’s spires and campaniles, now calling for work instead of prayers. The orthogonality of every road, and the primacy of order, uniformity, and strict geometry were also adopted to create a controlled and “civilized” landscape. But most importantly, Creole planters perpetuated two main features of the architecture of conquest: the use of portadas, towers and arcades, with their Classical implications of conquest and empire, and the use of distinct materials, styles and locations, to establish a socio-economic and racial hierarchy.

The Neoclassical trend of the epoch, in vogue throughout the island, also pervaded the general layout with a sense of ceremony granted by the broad boulevards, marked axis and big open spaces. The architecture of the Cuban sugar mills was thus envisioned not only to subject an enslaved population, clearly demarcating a racial hierarchy, but also to send strong messages of the socio-economic power of the Creole owners, as further analyzed in chapter two.

103 Cantero and Laplante, Los ingenios, 262.
CHAPTER TWO

THE POWER OF THE SUGAR INDUSTRY: MONUMENTAL ARCHITECTURE AND TECHNOLOGICAL DISCOURSE

The modern spirit of Creole planters and their fascination with the Industrial Revolution pervaded the Cuban sugar mill landscape and shaped its architecture. This is nowhere more evident than in the design of the factories, proudly at the center of the complexes, with a monumental architecture meant to house the latest machineries of the epoch (see figs. 1.26, 1.27, 2.1 and 2.2). In this chapter I will argue that a statement of scientific knowledge and industrial know-how was constructed, not only through the buildings and the actual sites, but also through the images of the book *Los ingenios*, commissioned and paid by Cuban sugar planters, and produced in an oversize format over a period of two years (1857-1859).1 These images along with Justo Germán Cantero’s texts became metaphors of progress and modernity, based on reason and science: the science of “sugar-making.”

The Cuban Hacendado’s Scientific Might

To build these truly impressive complexes, to introduce industrialization and modernity into Cuba, and to revolutionize the socio-economic profile of the island was no easy task, and Manuel Moreno Fraginals, in his book *The Sugarmill*, defines the Cuban sugar revolution as an intellectual adventure and enterprise that demanded a great deal of research, travel, wide

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reading, and great investments. Every top sugarman of the period visited the United States, Europe, or the Antilles (Haiti, Jamaica, or Barbados) to gather data on the Industrial Revolution or the slave trade, to gain technical knowledge, to search for better machines, new chemical products, or more productive varieties of cane.

From the very beginning of the Cuban sugar enterprise one of the distinctive features of the Cuban sugar planter was his constant disposition to invest in new machinery and new methods of making sugar, no matter the price. They ransacked all the industrial markets of Europe and America to buy machines that could perform the work formerly done by slaves, and to look for new methods that could improve the production of sugar. Roland Ely states that Cuban planters showed "great disposition to try every new method" and soon "left behind their

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2 According to Moreno Fraginals, the intellectual adventure began in 1789 when Francisco de Arango y Parreño, an influential Cuban intellectual, began a crusade to transform Cuba into a single-crop economy based on sugar (like Jamaica and Saint Domingue). In 1792, he wrote the first important document of the Cuban sugar industry, the Discurso that announced the transformation of the Cuban economy and proposed a “study travel” to foreign sugar mills in order to study their methods (and "to steal technical data from competitors"). The first technical-study voyage was undertaken in 1794 by Arango y Parreño and the Count of Casa-Montalvo, who visited Spain, France, Portugal, and England to gather data on the slave trade and the Industrial Revolution, and Barbados and Jamaica to gain technical knowledge on the process of making sugar. Manuel Moreno Fraginals, The Sugarmill: The Socioeconomic Complex of Sugar in Cuba, trans. Cedric Belfrage (New York and London: Monthly Review Press, 1976), 15, 30-32; Levi Marrero, Cuba: Economía y sociedad: Azúcar, ilustración y conciencia, 1763-1868 (Rio Piedras, Puerto Rico: Editorial San Juan, 1972), 15, 23-24.


4 Diverging from the general practice in the southern United States and British West Indian islands, the Cubans did not direct their investments exclusively into land and slaves, but rather into machinery. Franklin W. Knight, Slave Society in Cuba during the Nineteenth Century (Madison: University of Wisconsin Press, 1970), 183.

5 "It is the pride of such slave-owners as Zulueta and Poey that they have ransacked all the industrial marts of Europe and America to make iron, coal, charcoal and steam do the work which was formerly done by slaves." Antonio C. N. Gallenga, The Pearl of the Antilles (1873; repr., New York: Negro Universities Press, 1970), 97. More than one traveler described Don Juan Poey as a man who gave zealous attention to his sugar mill Las Cañas.
French and English rivals of the neighboring islands. Earlier than most, Cuban planters abandoned manual cultivation, producing through good machinery and elaborate scientific processes a quality of sugar that surpassed that of any other country. Three of the travelers’ impressions evidence the awe-inspiring scientific enterprise achieved by Cuban planters:

I was in front of one of the wonders of the modern industry. The sugar mill machinery costs several millions, and no work is manually done: there are railroad lines, cars rolling from one level to the other, lathes moved by steam going up and down without interruption. Intellect is behind every detail.

The Derosne and Cail equipment that substituted the old method of fabrication is a magnificent but very expensive thing. There is equipment that has cost to the owners, including the installation, more than 12,000 pesos; such as the ones installed in the sugar mills of Santa Susana, San Martín, La Ponina, Álava, etc. This equipment is very curious, and it’s surprising to see their witty applications of chemical and mechanical principles.

There is now a notable spirit of enterprise among the leading sugar planters, who are not deterred by the cost of any machinery, which will, in their judgment, save money. On the contrary, they are more prompt to err by extravagant outlay on projects yet untried.

Plantation owners were very proud of the sophisticated machinery implemented in their ingenios, and the most irrefutable evidence is found in the book Los ingenios, where Justo G. Cantero's entries for each sugar mill focus mostly on describing and praising every machine,

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technology, and operational system, giving specific details about each piece of equipment (brand, cost, and manufacturer, and the “wonderful” task they performed). In addition, several sugar mills were represented through interior views of their boiling houses in which Eduardo Laplante rendered, with mathematical precision and meticulous details, the sophisticated machinery used for sugar production (see figs. 2.1 and 2.2). In his article, "Nicolás Guillén and Sugar," Antonio Benítez-Rojo argues that the joining of illustrations and texts constitutes a Creole discourse intended to present the sugar mills as a form of scientific knowledge only available to a few, and thus indicative of power.

The machines and gadgets on display here surprise because of their modern appearance. They almost look like those complicated contraptions imagined by Jules Verne, since their innovative shapes acquire a kind of futuristic quality when contrasted to the barefoot and barely clothed blacks working during the grinding season. That impression grows steadily as we read Cantero's technical descriptions: steam engines built in Glasgow, Liverpool, and New York; centrifuges manufactured by Benson & Day; gadgets perfected by Derosne and Cail; brand new technologies applied by M. Duprey and Mr. Dodd. It is clear that this sophisticated machinery used for sugar production constitutes a form of knowledge, inaccessible not only to the slaves and coolies who work under the roof of the immense factory but also to the white overseers who drive the workers and control the tasks. In fact, all human presence seems superfluous here; human beings are insignificant, transient organisms that do not outlive the institution of the sugar mill, whose machinery is represented as the only legitimate knowledge, as the only enduring truth that exists and will ever exist in Cuba.11

The Process of Sugar-Making: Machinery and Buildings

This industry-driven Creole planter and his interest in the scientific enterprise of sugar production were also evidenced in his architectural decisions. In the general layout of Cuban sugar mills the sugar factories stand out as the most prominent, large, and central buildings of the site. In centralized compositions the boiling house occupies the center of the complex (see

figs. 1.17 and 1.18), while in axial layouts the main avenue usually ends up in front of it (see figs. 1.21 and 1.22). In each case, the processional landscape thus highlights the industrial processing of sugar (see figs. 1.19 and 1.20).\textsuperscript{12} While in most plantation landscapes, both in America and the rest of the Antilles, the main house was the center of the estate and the largest and most elaborate building on the site, in Cuba this prominence and centrality was always given to the factories.\textsuperscript{13} In fact, more than one traveler was surprised by the Spartan simplicity of the \textit{casa de vivienda} in contrast to the sugar mill, a true marvel of the science of the epoch.\textsuperscript{14}

Three important buildings compose the manufacturing sector, each devoted to one step in the production of sugar: the milling house, the boiling house, and the purging house (see figs. 2.3 and 2.4). The milling house (\textit{casa de ingenio})\textsuperscript{15} sheltered the steam-powered grinding mill, a big iron machine consisting of horizontal rollers that squeezed out the cane passing through it to collect the juice and eject the bagasse (see figs. 2.5 and 2.6).\textsuperscript{16} The mill was usually located next to the boiling house in an annexed structure opened in three sides and covered with a hipped roof on wooden posts. This type of annexed structure is noticeable in

\textsuperscript{12} This is the case of Laplante's lithographs of the sugar mills Flor de Cuba, Buena Vista, Ácana, Amistad, Armonía, Manaca Iznaga, Monserrate, El Narciso, San Rafael, Santa Teresa (a) Agüica and Tingüiaro. In all of them the main road reaches the \textit{batey}, then bends its course and reduces its width to continue reaching other dependencies.

\textsuperscript{13} In American sugar plantations, the main house is always the center of the estate, and according to John Michael Vlach, if the house was not literally at the center, it was at least the symbolic center. He states that the planter's house was almost always the largest, if not the most elaborately decorated buildings on the site, and was situated either on high ground or close to the main thoroughfare. John Michael Vlach, \textit{The Planter's Prospect: Privilege and Slavery in Plantation Paintings} (Chapel Hill: University of North Carolina Press, 2002), 93.

\textsuperscript{14} Duvergier de Hauranne, “Cuba et les Antilles,” in Pérez de la Riva, \textit{La isla de Cuba}, 166.

\textsuperscript{15} Also known as the engine-house or sugar-house, destined for grinding.

\textsuperscript{16} Bagasse is the fibrous matter that remains after sugarcane stalks are crushed to extract their juice. It was stored and later used as fuel.
Celestino del Pandal’s floor plans of the ingenios Santa Rosa and Santo Domingo, all in the province of Matanzas (see figs. 2.7 and 2.8). In these floor plans, the steam-powered grinding mill is located to the left of the picture, with no exterior walls, only slight columns supporting the roof.

In other cases, the milling house consisted of an independent building, entirely open on all sides, with "an extremely large roof, supported by pillars and posts.” According to Samuel Hazard, it was “nothing more than a very well constructed shed to keep off the sun and rain, the floor being mostly paved with brick, and the stairways leading from one portion of the building to another being of solid stone.”17 This is the case of the milling house of Gómez sugar mill in Matanzas, drawn by Celestino del Pandal in 1876 (see fig. 2.9).

The steam engine used to power the grinding mills was one of the largest machines in the entire sugar mill complex, usually completely overshadowing the architectural structure meant to house it. Both the steam engine and the grinding mills were located in an intermediate space, covered with a roof but completely opened to the batey. In Laplante’s lithograph of the boiling house of the ingenio Flor de Cuba, located in Cárdenas, the mill can be noticed at the right of the picture, one level under the boiling house and separated through a balustrade (see fig. 2.1). Ox-pulled carts filled with canes are illustrated depositing the canes in the floor in sufficient quantities to feed the machine. The juice extracted from the canes and known as guarapo, ran from the mill to the boiling house by means of troughs or conductors.18

The boiling house (casa de calderas) was a vast structure where the cane juice coming directly from the grinding mill was ejected, clarified, and concentrated (see figs 2.3, 2.4 and


18 Hazard, *Cuba with Pen and Pencil*, 303.
In chapter twenty-seven of his travel account titled “Sugar-Making,” Samuel Hazard gives a detailed description of the different machines used in the boiling house. The process began when the guarapo coming from the mill was forced, by means of pumps, into large kettles heated by steam known as clarifiers (defecadoras), in which the extraction took place (see fig. 2.12 – 2.13).\textsuperscript{19} According to Hazard, “From the clarifiers, the juice, after settling, is filtered through vats (filtros de carbón), filled nearly up to the top with bone-black.” After the clarifying vats the liquor is conveyed to the vacuum evaporators (evaporadores or condensadores),

\ldots which are mostly those of Rillieux’s patent, and made by Merrick & Sons, of Philadelphia, the principle of latent heat being made use of to evaporate the cane-juice. \ldots The vacuum-pan consists of a close copper vessel, perfectly air tight, the middle portion cylindrical, and from six to seven feet diameter, the upper portion convex or dome shaped, and the bottom also convex, but less than the top.\textsuperscript{20}

In addition to the clarifiers, vats, and vacuum evaporators, Laplante’s engravings and floor plans of boiling houses almost always include a set of centrifuges, introduced in the 1850s in the most modern Cuban sugar mills. The centrifuges revolutionized the draining process by draining sugar molds through suction and separating sugar crystals from molasses (see figs. 2.1, 2.2, 2.10 and 2.11).\textsuperscript{21}

\textsuperscript{19} During the eighteenth century, and before the innovations in the boiling process, most Cuban sugar mills had Jamaican trains in the boiling house (a series of five smelted copper kettles and two or three clarifiers placed on the same fire-ditches). The kettles were of varying sizes and generally grouped in sets of five; the first one, which received the raw juice, was the largest, and the others became smaller as the syrup evaporated. Large-scale production was achieved by increasing the number of kettles, and some plantations ended up with ten Jamaican trains. Arango brought Jamaican trains to Cuba after his famous “investigation” voyage to Jamaica in 1778 (see fig. 2.12 – 2.13). Moreno Fraginals, \textit{The Sugarmill}, 106, 108-109.

\textsuperscript{20} Hazard, \textit{Cuba with Pen and Pencil}, 305.

\textsuperscript{21} Moreno Fraginals, \textit{The Sugarmill}, 117-118.
In the boiling houses’ floor plans, drawn by both Pedro Celestino del Pandal and Eduardo Laplante, the complexity of the machines contrast sharply with the seemingly simplicity and openness of the architectural spaces (see figs. 2.7 – 2.11). Usually having a rectangular or cruciform shape, these boiling houses had an open floor plan, with no supporting interior walls but rather a grid of columns evenly spaced to allow the positioning of all the machines following the required line of production. The interior spaces had an impressive height with Y-section, slender columns supporting hipped roofs (see fig. 2.1 and 2.2). Although there were few internal divisions, the boiling house required different levels to function: an underground floor for the subterranean fire to boil the cane juice, a ground level to locate the different machines, and mezzanines and staircases to reach the upper part of the kettles (see figs. 2.1, 2.2, 2.14 and 2.15). In addition, the boiling house had several chimneys to expel the smoke and vapors.

Eduardo Laplante illustrated the underground floor of the boiling houses of the Asunción and Victoria sugar mills (see fig. 2.14 and 2.15). In both cases, slaves are depicted feeding the fire in the cellar with the bagasse located in a pile on one side of the space. As a sort of cellar or cavity in the ground (see fig. 2.13), the furnace fires were usually located on one side of the mill, with an open space on its front into which the carts emptied their loads of mashed cane, the only fuel used to generate steam.22

The last stage of sugar manufacture was the draining process, which was performed in the purging or curing house (casa de purga).23 The curing process was done in molds (panes or hormas), initially of clay and later of metal (see fig. 2.18). These molds, filled with sugar in

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22 Hazard, Cuba with Pen and Pencil, 297-298.

23 Also known as drying house.
varying degrees of crystallization, were carried from the boiling house to the purging house in small railways trucks. These iron tracks that communicated both buildings are rendered in every lithograph or floor plan included in the book *Los ingenios* (see figs. 2.3, 2.4, 2.29 - 2.31); and in every drawing of Pedro Celestino del Pandal (see figs. 2.19 - 2.20). In some of Laplante’s illustrations, the tracks are covered with a roof and ornamented with railings, as in the ingenio Purísima Concepción (a) Echeverría, located in Cárdenas (see figs. 2.30). On these tracks, slaves dragged the molds on little handcars (see fig. 2.27).

The purging house is generally of very great extent, being two stories high, and with one of the sides completely open in order to allow the *gavetas*, large boxes upon wheels, to run in and out conveniently (see fig. 2.16). In Celestino del Pandal’s drawings of the purging houses of San José and Santo Domingo sugar mills, the rectangular floor plans are closed with uninterrupted supporting walls on three sides, with a fourth side pierced with openings to allow the *gavetas* to come out (see figs. 2.19 and 2.20). In these boxes, immensely large, the sugar was exposed to air and sun for the purpose of thoroughly drying it. Describing a purging house or *casa de purga*, Hazard mentions that,

The floor or the upper story is simply a series of strong frames, with apertures for placing in them the *hormas*, funnel-shaped cylinders of tin or sheet-iron, into which is put the molasses to drain troughs beneath. The number of these *hormas* is something wonderful, there being in some of the houses as many as twenty thousand. (see fig. 2.17 - 2.18).

24 This connection appears in every floor plan included in the book *Los Ingenios*. In addition, the rails are noticeable in the Buena Vista, Güinía de Soto, and Intrépido sugar mill lithographs. In the lithographs of the sugar mills of Santa Teresa (a) Agüica, Güinía de Soto, La Ponina, Monserrate, Purísima Concepción (a) Echeverría and Flor de Cuba, the rails appear with hand railings and covered with a roof (see Appendix 2).


26 Hazard, *Cuba with Pen and Pencil*, 294-295.
Beneath the upper floor were a number of funnels, which permitted the molasses draining from the pans of sugar to run into troughs, which again conveyed it to large vats or hogsheads, called bocoyes (see fig. 2.17). In these draining racks, the sugar was stored for thirty to fifty days.

Describing the purging house of the San Martín sugar mill in Cárdenas, H. B. Auchinloss relates,

The purging house is generally the largest house on the estate. That of the San Martin is 400 feet long and 150 feet broad, and contains room for 22,220 panes. The general plan of the casa de purga is the same on all the estates, there being one floor pierced for the cones, and one packing and drying room below. In the lower room are double rows of cars, one above the other, placed on tram-ways, and so arranged that they may be run out into the sunshine with their loads of moist sugar to dry. This plan of building is simple and effective, and could not be improved.

Besides the three main factories composed by the milling, boiling and purging houses in which sugar was produced, other large buildings were necessary to store or manufacture materials, products, or animals. Other industrial buildings, not involved in the production of sugar, included the blacksmith shop, carpentry workshop (carpintería), adobe and lime kilns (hornos de cal y ladrillo), and tile factory (tejar). These buildings were part of every sugar mill, and they provided the spaces to produce the materials used in the complex, such as bricks, tiles, and wooden posts and pieces. They were usually simple structures, whose architecture and

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28 Cantero usually specifies the number of molds (furos) used in each sugar mill, the numbers ranging from 8,000 (in San José (a) La Angosta sugar mill) to 22,000 (in the Monserrate sugar mill); distributed in 40 to 100 drawers (gavetas). At the end of the curing operation, which could last from thirty to fifty days, the molds were placed in the sun and the sugar extracted some hours later. Then, came the process of the selection of sugar, the division of the loaf at precise spots to separate the first-quality white, the ordinary white, the yellow, and the brown. Refined sugar was then packed in wooden boxes and muscovado (dark brown sugar) in barrels or hogshead. Moreno Fraginals, *The Sugarmill*, 118-119.

spaces merely responded to the specific uses for which they were destined. Carpentry workshops were modest but large structures, with open floor plans supported by wooden pillars and hipped, tiled roofs, such as the ones drawn by Pedro Celestino del Pandal of the ingenios Santa Rosa, Concepción and Gómez in Matanzas (see figs. 2.21 – 2.23). Of the San Martín carpentry workshop and sawmill, for example, Cantero states it was a prominent building built of precious woods, while of the tejar, he says it measured 360 x 150 feet and contained two ovens: one for bricks and one for tiles (see fig. 1.21). The adobe kilns were small and very standard structures, which were usually part of every sugar mill (see fig. 2.24). Lastly, indispensable parts of every sugar estate were the potrero, or corral, where the cattle used on the estate were herded, and the stables, where the horses used in the property were kept. The floor plan of the Santa Rosa sugar mill stable, shows two wings, each having 16 stalls for individual animals (see fig. 2.25).

Lastly, bagasse houses were other prominent structures within the site, used to store the bagasse for later use as fuel. Usually, these structures consisted of one to four identical buildings with a rectangular floor plan. Located in the front or in the back of the boiling house, they were characterized by steeped, thatched roofs supported on wooden posts, usually without any exterior walls (see figs. 2.31 and 2.33). Their simple, open floor plan is manifested in Celestino del Pandal’s drawing of the Gómez bagasse house (see fig. 2.26).

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30 Cantero and Laplante, *Los ingenios*, 196. The tile factories, used for the production of flat tiles and pottery, usually consisted of naves containing clay stores, clay mixers, a press for shaping the mortar, drying areas, and the kilns (hornos) for firing the dried tiles.

31 Represented in Laplante's lithographs of the Trinidad (4), Flor de Cuba (3), Tingüaro (4), Amistad (2), Monserrate (2), Intrépido (2), San Rafael (1) sugar mills. Bagasse houses also appear in the Ácana (2), Güinía de Soto (1), San José (a) La Angosta (3) and Buena Vista (1) sugar mills, but with somewhat more solid appearance (probably due to the tile roofs). Sometimes they were quite large structures, the San Martín's measuring around 180 feet long. See Appendix 2.
The Monumentality of the Sugar Factories

In Cuban sugar mills, the sugar factories stand out not only for their location but also for their dimensions and architectural styles. The boiling house is usually the most prominent building on the site due to its location. In most of the cases, the boiling houses constitute the actual center of a completely centralized and symmetrical layout, as in the cases of the Monserrate, La Ponina, El Narciso, and Armonia sugar mills (see figs. 1.17 and 1.18). Of the three industrial buildings, the smallest is the mill (its dimension ranging from 900 to almost 3,000 square yards); the boiling house is medium sized (from 3,000 to more than 8,000 square yards); and the purging house is the largest (from 6,000 to more than 8,000 square yards).

These structures usually have wide, rectangular and open floor plans, especially designed to accommodate the sophisticated machinery and the necessary operations for sugar production. As a shell, the buildings grow logically from internal forces, those of the requirements, shapes, connections, and processes of the machinery. Their open floor plans, with a timber frame of two or three longitudinal bays, was meant to create huge open spaces that could accommodate diverse procedures, differentiated and controlled by management techniques rather than physical barriers. These open spaces facilitated surveillance and control.

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32 Cantero and Laplante, Los ingenios, 214.

33 Some dimensions given by Cantero are the following: in the Intrépido, the mill measured 36 x 26 varas; the boiling house, 80 x 42 varas; and the purging house (two of them), 95 x 25 and 200 x 20 varas. In La Ponina sugar mill, the mill measured 62 x 40 varas; the boiling house, 110 x 75 varas; and the purging house 140 x 60 varas. Cantero and Laplante, Los ingenios, 129, 154, 173, 178, 201, 232, 244.

34 Cantero and Laplante, Los Ingenios, 153 (Monserrate), 214 (El Narciso). In these two sugar mills the boiling house is located at the center of the batey. Cantero mentions a “T” form floor plan for the boiling houses of Monserrate and El Narciso sugar mills, saying that this form is beneficial because the transversal wing, which is longer, receives the cane and functions also as bagasse conduits.
at the same time that they gave opportunities for worker solidarity (see fig. 2.28).  

Eduardo Laplante's views of the factories illustrate the complexity of the interior spaces, with the different stories (sometimes requiring excavations) and mezzanines required to perform different processes and operations, and the resulting staircases, balconies, and railings (usually made of cast iron with ornamental details) (see figs. 2.1 – 2.2). These interior views also underline the intricate wooden structures of the ceilings, with complex grids, combinations, and joints required to hold the extremely high and wide roofs of the central and lateral naves, as well as the long projecting eaves covering the galleries (for outside activities) (see fig. 2.2 and 2.15). The exquisite work and the great skills of carpenters and woodworkers are manifested in these views. On several occasions, Cantero mentions the “precious and expensive” woods used in the factories, as well as their “beautiful” and delicate carving.

Regarding the exteriors, the factories are characterized by their stern construction, with mampostería walls (like the planter's house) of the load-bearing variety, almost half a meter wide, with wooden, tiled, hipped roofs. In the case of the factories, masonry walls were used not only for their firm, monumental aspect, but also because they were a fireproof constructive

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36 Luis Miguel García Mora and Antonio Santamaria Garcia, "Donde cristaliza la esperanza: Lectura de los ingenios," preface to the new edition of *Los ingenios: Colección de vistas de los principales ingenios de azúcar de la isla de Cuba*, by Justo G. Cantero and Eduardo Laplante (Madrid: Centro Estudios y Experimentación de Obras Públicas, 2005), 76. These elements are clearly represented in the lithographs of the sugar mills La Ponina, Flor de Cuba, Victoria, San Rafael and Asunción. See Cantero and Laplante, *Los ingenios*, 218, 248, 176, etc.

37 The factories of the ingenios Purísima Concepción (a) Echeverría and La Ponina, both in Cárdenas, were made of cedar. Cantero and Laplante, *Los ingenios*, 182, 220.
technique (see appendix 2). In the boiling and purging houses, the thick walls had numerous, although small, openings (semi-circular or moon-shaped) (see fig. 2.29), and they often included a gallery or portico on the front façade (see figs. 2.29 - 2.32). In many cases, the frontal galleries were supported on wooden posts "made of exquisitely carved, precious wood," as Cantero praises in the Santa Teresa (a) Agüica's boiling house and as is still noticeable in the Santo Domingo purging house (see fig. 2.29 and 2.32). In other more imposing boiling houses, the porticos had large, semi-circular arches made of masonry, as in the case of the Trinidad sugar mill’s boiling house (see fig. 2.33). In other cases, large, monumental doors and windows with round arches on top were evenly spaced in the lateral façades of the factories. The round arches were blocked by stained-glass fanlights that filtered sunlight to the interior spaces, as can still be seen in the ruins of the Conchita and España sugar mills (see figs. 2.35 – 2.36). Massive masonry walls, beautiful arcades, and doors and windows with stained-glass fanlights, also characterized the architecture of the casas de viviendas (see chapter four). These architectural elements not only evidence a particular attention given to the design of the factories, but also resemble the Classical principles imposed by the Spanish early colonial architecture as symbols of authority and power.

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38 Francisco Pérez de la Riva, La habitación rural en Cuba (Havana: Editorial Lex, 1952), 82; Cantero and Laplante, Los ingenios, 233. These walls were usually painted white, pink or sienna (with contrasting green or brown doors). Cantero mentions that the Intrépido's factories were painted with different colors, granting the complex a cheerful aspect.

39 Of the Santa Teresa (a) Agüica's boiling house, Cantero says it was 120 varas long by 50 varas wide, having 20 windows on each side, and 11 semi-circles ones at the end. Cantero and Laplante, Los ingenios, 129. See Appendix 2, 20.

40 Cantero and Laplante, Los ingenios, 129.

41 As for example in the Flor de Cuba, Armonía, Trinidad and Victoria sugar mills.

42 See chapter four, “The Casa de Vivienda’s Façades: Wooden Posts and Arcaded Porticos.”
Classical ornaments were also implemented in some factories. Such is the case of the Flor de Cuba’s boiling house, characterized by its monumental columns, with bases, “gracious cornices,” and triangular pediments (see fig. 2.34). According to Cantero, these ornaments conveyed to the entire factory "a quality of elegance and lightness." However, on many occasions, these buildings' vast dimensions, massive character, and never-ending white walls conferred a rather daunting and grand appearance. A case in point is the purging house of the Santa Teresa (a) Agüica sugar mill in Cárdenas, with its copious windows and monumental entrance, which "seems more like a palace, than a sugar mill construction," with a "door, very high and adorned, in the center of the building, serving as the main entrance" in Cantero's own words (see fig. 2.29).

In the design of the Flor de Cuba's boiling house, the functional spirit of the Creole planter and his aesthetic interest are combined to produce a monumental but rational structure (fig. 2.34). Justo G. Cantero's describes it as follows:

In the center of the batey is located the elegant and large boiling and milling house, 125 varas long by 70 varas wide. The main module, covered by flat tiles, projects above the eaves like an attic, leaving a horizontal opening all around in order to allow the expulsion of smoke, the entering of light, and air circulation; the rest of the building is covered with zinc. The tall walls have round arches, ornamented with gracious cornices that give the fabric an aspect of great lightness and elegance.

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Eduardo Laplante’s Sugar Mill Images: Progress and Civilization in Cuban Countryside

In *Los ingenios*, the French painter and engraver Eduardo Laplante represented 25 Cuban sugar mills through 16 lithographs representing idyllic bird-eye views of the entire complexes; 10 lithographs showing interior views of the boiling houses; 4 floor plans of general layouts and 3 floor plans of boiling houses (see Appendix 1). Even though these images reproduced every structure within the site, often rendered with minute detail of their architectural aspects, they also carried powerful ideological messages that were meant to highlight specific Creole achievements. After all, the edition was paid and commissioned by the sugar mill owners, and the text was written by a sugar hacendado. The main agenda of the book, as stated by Cantero in the introduction, was “to divulge, all over the country, the planters’ efforts and their advancement following the universal march of progress.”

Manipulation of images of Spanish America dates back to the fifteenth and sixteenth centuries, when traveler artists “invented” America for the European eye by representing city images in atlases, diaries, city books, and other geographical publications. Scholars have demonstrated that these images did little more than reproduce the America that Europeans wanted to see, so they ended up being European projections. In addition, they were mainly concerned about representing the “idea” of a city, rather than a specific place, just as it would later happen with Laplante's views. His images follow the type identified by Richard L. Kagan as “chorographic views,” which since the sixteenth century attempted to represent

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46 Justo Germán Cantero, introduction to *Los ingenios: Colección de vistas de los principales ingenios de azúcar de la Isla de Cuba* (1857; repr., Madrid: Centro Estudios y Experimentación de Obras Públicas, 2005), 89. Translation mine.

colonial cities as an architectural entity or urbs, providing a sense of the city as a whole.48

In the same way, Eduardo Laplante's views represented to the world the Cuba that Creoles' foresaw and were helping to construct. Just as centuries before images of “colonized” America highlighted the “civitas” and the “urb,” the sugar mills' grand vistas showed a domesticated and urbanized landscape within the countryside, in which the power of the industry activated previous languid settings. Benítez-Rojo argues that the book constitutes a statement of power through an allegory of progress, civilization, and wealth. The individual illustrations and texts constitute pieces of a "grand composition" intended to read as a unit, as they constructed a monument to power, and specifically to Creole power.49 And this power was achieved not only by owning an impressive amount of land and buildings, and the hundreds of slaves within it, but above all by introducing the Industrial Revolution to Cuba with all its sophisticated machinery and leading-edge technology, and by transforming the economy of the country from a backward cattle-raising society into an industrial, capitalist one. In this sense, the images work as visual propaganda for Cuba's modernity, progress, and productiveness, and for the Creole's achievement. In Benítez-Rojo’s words,

This imposing assemblage of buildings, roads, railroad tracks, and enormous, smoke-crested chimneys undoubtedly sets in motion the gentle, green landscape of the countryside. It activates the bucolic inertia by imposing upon it an allegory of progress, or better, an irresistible technological system investing the fertile landscape with a new purpose. Thus, for Laplante as much as for Cantero, the sugar mill was, above all, a civilizing force, a center of ‘life, order, and industriousness’ that, with its technological discourse, had awakened the Creole landscape from its languid, pre-capitalist dream.50

48 This contrasts to the other mode of representation, which Kagan calls “communicentric views,” whose main concern was to represent the human side of the city: the civitas. Kagan and Marías, Urban Images of the Hispanic World, 16-17.


Continuing Benítez-Rojo’s line of argument, and after analyzing Eduardo Laplante’s images, specifically his rendering of architecture, I would add that in order to achieve this, everything superfluous, chaotic, and disordered was completely proscribed from the picture, whose main aim was to highlight the carefully ordered and neatly kept layouts, the monumental architecture, and the constant presence of machineries and industrial facilities. In sum, the rendering was of a village whose regular and ordered design was completely in tune with reason and science (see fig. 2.37 and 2.38).

Furthermore, I consider that the estates' images became surrogate portraits of the owners as a group and their practical and enlightened spirits. In sharp contrast to American plantation pictures in which, according to John Michael Vlach, the pictures of planters’ mansions were considered a type of portrait,51 in Cuba, the owner's persona was inextricably linked to the estate as a whole. In Laplante's images and Cantero's texts, the planter's house, if it appeared at all, was reduced to a diminutive presence in the distance or just a line of description. In contrast, the representation of the whole complex constitutes a celebratory ode of what was owned (land, buildings, slaves, and machinery) and what was achieved (industry, order, civilization, and progress). With the meticulousness of an architect, Laplante’s images constitute detailed site maps, rendering in perfect detail the entire property with all its individual buildings (see figs. 1.19, 1.20 and 1.24).52

Thus, I propose that buildings are meant to be the central theme, and people are never a

51 Vlach, *The Planter's Prospect*, 7. “The connections that planters sensed between their personal identities and their homes effectively transformed a painting of one's house into something like a surrogate portrait.” According to Vlach, “By far the great majority of nineteenth-century plantation paintings were not landscapes but house portraits.” Vlach, *The Planter's Prospect*, 11.

52 Comparing his paintings with surviving plantations we can nevertheless admire the high degree of fidelity in his documentary efforts.
dominant element. Each spectacular bird's-eye-view represents a meticulous rendering of tranquility. Laplante is not interested in capturing the sense of urgency and diligence, the chaos and disorder so vehemently described by travelers and writers who visited the mills. Quite the opposite, in the pictures, everything seems silent, peaceful, still, as if time had stopped. When work is shown, the antlike scale on which the enslaved workers are rendered causes them to be overshadowed by the architectural structures or the machines. It is the sugar industry that stands out most in the pictures, demonstrating the eminence of the huge sugar factories, which rose up grandly in the midst of the fields. There is no interest in the narrative of production, just in the architecture of production, which is best appreciated in solitude and silence (see figs. 1.26, 1.27, 2.1 and 2.2).

I believe that the images, in order to carry the intended ideological message, had to omit the frenetic activity and the hectic character of a sugar mill in full operation, captured by a "regular" eye instead of the bird’s-eye. The reality, as related by travelers, was, of course, much messier, noisier, and cramped than that represented by Laplante. Ernest Duvergier de Hauranne's impression of the ingenio Las Cañas in Matanzas, which he visited in 1865, illuminates all the aspects Laplante chose not to represent:

Great is my surprise when I enter the batey: the ox-pulled wagons whining; thirty horses neighing inside the stable behind a shed; black men and women running in every direction, carrying tools and packages; the chickens cluck and dig the ground; the machines blow and thunder with the constant movement of the steam that never stops.53

The look from above not only eliminates everything messy, but also helps to highlight the vastness of the property and to make a statement of authority, since it represents the

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53 Duvergier de Hauranne, "Cuba et les Antilles," in Pérez de la Riva, La isla de Cuba, 165. Translation mine.
position of the planter, surveying his dominion and in perfect control of his possessions. This is underlined by the inclusion of the owners, usually in the foreground, in an elevated spot, overlooking the estate, as in the Ácana and Buena Vista sugar mills (see figs. 2.37 and 1.24); or supervising the work on the factories, as in the Flor de Cuba, San Martín, and Álava sugar mills (see fig. 2.1, 2.2 and 2.28); on horseback riding across the vast expanse of his propriety, as in the Purísima Concepción (a) Echeverría, Trinidad, and Güinia de Soto sugar mills (see figs. 2.33 and 1.26); or arriving in the *volanta* (carriage) as in the Flor de Cuba’s lithograph (see fig. 1.19). In every case, attributes of authority and control are included: the well-dressed figures contrast with the nakedness of slaves; the owners stroll or converse, suggesting recreational instead of arduous labor, and they survey the propriety, underlining their ownership and command.

The almost imperceptible presence of slaves, represented in a diminutive scale, is intended to focus on the planter's achievement rather than the slave's work. Using the beauty of the settings, the artist deflects attention from the brutality of the slavery system, as the planters distanced themselves from the ongoing debates over slavery, avoiding the social and moral dilemmas that were inextricably linked to it. By downplaying the presence of slaves, Creole planters also reduced their ominous threat, becoming the only all-powerful individuals.

According to John Michael Vlach, "the exclusion of slaves from paintings of plantations was . . . a powerful tactic that artists used to suggest a planter's undisputed command over his estate."\(^{55}\)

My hypothesis is that instead of painting subjects that might open their homeland to harsh judgments, Creole planters decided to concentrate on the industriousness of Cuba. Thus,  

\(^{54}\) The *volante* was an elegant carriage used in Cuba in the nineteenth century, with two horses loaded down with silver harnesses and a black rider in livery and jackboots. Edwin F. Atkins, *Sixty Years in Cuba* (1926; repr., New York: Arno Press, 1980), 31.

\(^{55}\) Vlach, *The Planter's Prospect*, 2.
the images make a positive visual argument on behalf of plantation society and the plantation system, highlighting the progress and civilization they brought to the Cuban nation. In every bird-eye view a perfect order and geometric precision pervades the overall composition, with the monumental and imminent presence of industry proudly at its center, and clear and demarcated open areas carefully organizing the rest of the structures. Everything seems to be in its proper place, with right angles and linear or grid layouts structuring the whole, and bestowing the complex with a latent sense of equilibrium and harmony (see figs. 1.19, 1.20, 1.26 and 1.27).

In the interior views of the boiling houses everything again seems neat and perfectly organized but the machineries become the protagonists of the views. The architecture is just there to support the complex process performed by the engines, providing ample and elevated roofs, different floor levels, and connections through staircases, railways, mezzanines and walkways. The renderings, however, highlight the impressive apparatuses, gadgets, troughs, and gears inside these architectural spaces (see figs. 2.1, 2.2 and 2.28).

**Conclusion**

The Creole planters’ fascination with technology and mechanization is noticeable in the architectural supremacy of factories, mainly of the boiling house, which becomes the new profane cathedral, reinforcing the authority of sugar and scientific knowledge. In addition, the architectural decisions and overall organization, which sought to facilitate surveillance and circulation, demonstrate an empirical and practical thinking.

Cuban sugar planters became so proud of the result, that they showcased it to the world; first, receiving in their sugar mills numerous travelers and foreign personalities, with lavish
attention and hospitality; and second, immortalizing their achievements and domains through the publication of the book Los ingenios. In the beautifully rendered and idealized pictures, sugar mill architecture reaches the supreme ideal of order, industrial progress, and Creole social and economic supremacy. The architecture becomes a statement, one of Creole—Cuban—power.
CHAPTER THREE
MECHANISMS OF POWER AND DISCIPLINE IN CUBAN SUGAR MILL ARCHITECTURE

The manipulation of space and architecture on the part of the planters was intended not only to reinforce and legitimate their elevated intellectual, social and economic position, as analyzed in chapters one and two, but also to ensure their tight control over the slaves, the land, and sugar production. By selecting the type of structures to be built, their location, size, mode of construction, and style of decoration, planters were able to determine not only the look of the land around them but also the conditions and circumstances under which their enslaved workers lived and labored.¹

In this chapter, I examine the architectural and spatial definitions imposed by the sugar planters in order to implement a system of power based on a structured routine, constant surveillance, and physical punishment. I examine the overall landscape and design of three important structures: the slave barracks, infirmaries, and nurseries, arguing how their architectural configuration and location were intended to impose spatial confinement, segregation, isolation, and panoptic surveillance.

The Enlightenment and the New Architecture of Power

In his book, Buildings and Power: Freedom and Control in the Origins of Modern Building Types, Thomas A. Markus argues that in the critical period between 1750 and 1850, Enlightenment reason, the political upheavals of the American and French Revolutions, and the

technical and social changes brought about by the Industrial Revolution "fractured the previous stable world," demanding new spatial structures that could adequately respond to new technologies and forms of productions, new social relations, and new systems of power. This resulted in a "typological explosion," in which new building types, such as factories, railway stations, hospitals, prisons, schools, among others, were developed or transformed.

The Age of Reason, with the Enlightenment and French Encyclopedism, gave an immense status to predictable order, systematic classification and organization, and the production of knowledge. Then, the machine appeared and mechanization took command, redefining "production and hence education, class, discipline, religion, hygiene, etc." The new industrial society that emerged worldwide in the eighteenth century, constituted an important model for Cuban sugar planters, not only in its architectural and urban basis, but also in its ideological, socio-economic, and political conception.

In Buildings and Power, Markus studies at length the first experiments in the design of industrial communities: the English and French cities of production, which became utopian schemes of this new mechanical and social power bought by capital. In chapter 10, dedicated to "Production," the author analyzes the emergence of the factory system and the mill, and the development of “perfect cities of productions,” which according to Markus shared "a vocabulary of avenues, axial symmetries, central church, and spacious formal gardens,” meant

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4 Markus, Buildings & Power, 41.

5 Among many others, Markus mentions the Brethren's model of community and the Moravian model, both of English origin. Another good example is Claude Nicolas Ledoux's ideal city for Chaux, in France. Markus, Buildings & Power, 253-255, 286-299.
to have "'top down' imposed order, uniformity, control, and cohesion." One good example is Claude Nicolas Ledoux's ideal city for Chaux, in France (see fig. 3.1). These economically self-sufficient communities, in which "work, education, social interaction and leisure were organized according to principles of reason and justice," were usually thought as an amalgam of production and social reform, in which education in the new industrial system played an important role, and where the church almost always constitutes the central building. The housing, usually on a grid, responded to hierarchical personnel, "cottages for workers, larger houses for overseers, and spacious three-story terraced houses for executives and professionals" (see fig. 3.1).

However, the greatest change in the modern era was the development of a new form of power, usually known as disciplinary power. This disciplinary power is considered “positive” because it is based on knowledge. According to Michel Foucault, in the eighteenth century "the formation of knowledge and the increase of power regularly reinforce one another in a circular process." This new form of modern power is no longer based in the body of the king (in its material and physical presence), but rather in the bodies that can be individualized and “transformed” or “reformed.” Thus, instead of being prohibitive, repressive, or punitive,

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6 Markus, Buildings & Power, 286-287.

7 Markus, Buildings & Power, 289.

8 Markus, Buildings & Power, 294.


10 Michel Foucault, Discipline and Punish: The Birth of the Prison (New York: Pantheon Books, 1977), 224-225. "Clinical medicine uses the bodies of the poor as a resource, to be dissected for research and teaching... to make new knowledge possible." Thus, "sites like hospitals, insane asylums, schools, etc., are considered as centers of power-knowledge." Hirst, “Foucault and Architecture,” 56.
“modern” power is productive, and based on discipline, surveillance, and control.

The result was the development of building types to organize, classify, and control people, and to impose discipline, segregation, and surveillance, with special attention to fresh air and sanitation, silence, work, and penance.\(^{11}\) This is exemplified by the numerous institutional reforms and buildings programs devised for hospitals, asylums, prisons, parish workhouses, charities, and national schools, and assumed by governments and public authorities both in Europe and America.\(^{12}\) All these new building types were designed with the belief that they were more than just passive containers, and that, through their functional program and its form and spaces, they could classify and organize people in space, shape relations, and mold character.

In the eighteenth century, modern ways of "forming and reforming character were invented," and subjects were "constructed in institutions in such a way that they too become a resource of power —workers in factories, children in schools."\(^{13}\) People were thus transformed into beings of a particular type, whose conduct was patterned and governed. This is what operated regularly "in the psychiatric asylum, the penitentiary, the reformatory, the approved school and, to some extent, the hospital."\(^{14}\) These diverse buildings were all constructed with the object of isolating and controlling individuals, considering that "separation and inspection had the objective of both maintaining discipline and promoting hygiene."\(^{15}\) A disciplinary

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\(^{11}\) Markus, *Buildings & Power*, 121.


\(^{13}\) Hirst, “Foucault and Architecture,” 57.

\(^{14}\) Foucault, *Discipline and Punish*, 199.

\(^{15}\) Hirst, “Foucault and Architecture,” 57.
mechanism achieved through order, surveillance, and control constituted a new form to exercise power.\textsuperscript{16}

This supreme belief in the potential of architecture to exercise power, to penetrate into men's behavior, "to increase production, to develop the economy, spread education, raise the level of public morality; to increase and multiply"\textsuperscript{17} is best exemplified in Jeremy Bentham's Panopticon. The Panopticon circular inspection house was imagined in 1786 and first published in 1791. It was a complete functional program and innovative form that embraced the moral effects of solitary confinement and central surveillance to enforce discipline and power (see fig. 3.2).

The Panopticon is a circular or annular structure whose floors are divided into cells arranged at the periphery (in each cell, an isolated madman, patient, condemned man, worker, or schoolboy), and at the center, an inspection tower with wide windows opening onto the inner side of the ring and from which a supervisor can observe each of the cells.\textsuperscript{18} In his book \textit{Discipline and Punish}, Michel Foucault states:

Each actor is alone, perfectly individualized and constantly visible. The panoptic mechanism arranges spatial unities that make it possible to see constantly and to recognize immediately . . . he is seen, but he does not see . . . invisibility is a guarantee of order . . . the crowd, a compact mass, a locus of multiple exchanges, individualities merging together, a collective effect, is abolished and replaced by a collection of separated individualities . . . Hence the major effect of the Panopticon: to induce in the inmate a state of conscious and permanent visibility that assures the automatic functioning of power . . . Bentham laid out the principle that power should be visible and unverifiable.\textsuperscript{19}

\textsuperscript{16} Foucault, \textit{Discipline and Punish}, 197.

\textsuperscript{17} Foucault, \textit{Discipline and Punish}, 208.

\textsuperscript{18} Hirst, “Foucault and Architecture,” 57; Foucault, \textit{Discipline and Punish}, 200.

\textsuperscript{19} Foucault, \textit{Discipline and Punish}, 200-201.
Bentham called the Panopticon an “idea in architecture,” its principle being that the many can be governed by the few. The idea is a construction that makes possible certain power relations, implementing the new form of power based on surveillance.\textsuperscript{20} Thus, the general function of imprisonment is changed and the strategy is that of transforming the conduct of the inmates by governing their behavior, instead of the traditional act of incarceration, detention, and punishment.\textsuperscript{21} In the preface of his publication \textit{Panopticon postscript}, Jeremy Bentham outlined the benefits to be obtained from his “inspection-house:” "Morals reformed — health preserved — industry invigorated — instruction diffused — public burthens lightened — Economy seated, as it were, upon a rock — the Gordian knot of the Poor-Laws not cut, but untied — all by a simple idea in architecture!"

Bentham's ideas and spatial structure were soon implemented in the designs for hospitals, schools, penitentiaries, mills, nurseries, asylums, etc. Of special importance for our study is the development of a new type of buildings for workhouses and industrial revolution schools, both following the same ideas based on segregation, confinement, discipline, and surveillance. As part of British institutional reform, 350 workhouses (houses for the poor) were built by 1839, and they all followed the same architectural model: single room dormitories arranged around a rectangular, enclosed court, with the guardian's house located on the upper floor over the entrance, and a bay window commanding a view over the whole establishment.

\textsuperscript{20} Hirst, “Foucault and Architecture,” 57.

\textsuperscript{21} Hirst, “Foucault and Architecture,” 59.

\textsuperscript{22} Jeremy Bentham outlined the advantages of the Panopticon in the preface of the publication: Jeremy Bentham, \textit{Panopticon postscript} (London: 1791), i. 
The discipline of work, a rigid timetable, and the separation of the sexes, were also implemented (see fig. 3.3).\textsuperscript{23}

Similar spatial arrangements characterized the industrial revolution school and the new systems of education implemented after the nineteenth century. In the new schools, children were prepared to work in the mills by learning strict time keeping, discipline, and compliant behavior. In this architectural model, a U or semi-circle plan was preferred for perfect visibility and visual control, with a chapel in the center, and separation of the sexes (either lateral or by separate stories height). Everything was designed for surveillance, and children were isolated from their parents to be formed collectively (see figs. 3.4 - 3.5).\textsuperscript{24}

In addition, new demands to stop the spread of maladies resulted in an enormous effort to increase the number of open spaces, washing places, latrines and laundries, and the ventilation and illumination of buildings. According to Markus, in the eighteenth and nineteenth centuries “the tie between cleanliness and morality made hygiene the natural focus of reforming regimes,” with the consequent implementation of elaborate systems of water supply, elimination, and drainage.\textsuperscript{25} The obsession with fresh air and light as well as with segregation and isolation was particularly instrumental for the design of hospitals, in order to aid recovery and prevent the spread of contagious diseases. Elaborate separation strategies were developed for the architecture of hospitals, with wings arranged around courtyards, and “U,”

\textsuperscript{23} In 1835-36 the British Commissioners approved 127 workhouses, following this model (the largest having up to 500 beds). By 1839 about 350 had been built. Markus, \textit{Buildings & Power}, 141-142.

\textsuperscript{24} Markus analyzes different schools, all following similar models: the pastoral colony, Sunday schools, and National schools built after 1804 in Britain, America and Europe, etc. Markus, \textit{Buildings & Power}, 41-94.

\textsuperscript{25} Markus, \textit{Buildings & Power}, 146.
“H” or “E” floor plans (see fig. 3.6).26

These Enlightened models of modern building types were most certainly known by Cuban planters and were surely a model for their plantations. However, their industrial system based on a slave labor force was quite distanced from the French and English Enlightenment values of freedom, democracy, education, and social interaction. Instead, their complexes have no room for religion, education, or leisure, but only forced labor and prison-like structures. The result, I argue, thus wavered between two systems of power: traditional and modern.

**Dual Systems of Power in the Cuban Sugar Mill**

In their sugar mills, Cuban planters implemented traditional colonial systems of power and modern ones. Strongly influenced by the French Enlightenment and imbued by the spirit of the Industrial Revolution, they believed in the co-relation between power and knowledge, a knowledge based on sophisticated technology, scientific processes, and new systems of production implemented in their sugar mills.27 As in any industrial enterprise of the modern era, their complexes relied on the power of machinery, unwavering clockwork, and positive and productive discipline that could only be assured by systems of constant surveillance and segregation. The modern spirit was also manifested in a new concern for the slaves' health and well being, and an interest in sanitation and hygiene, manifested in the proliferation of open spaces and courtyards as well as the construction of infirmaries and nurseries. Nevertheless, in contrast to contemporary European mills or factories where paid laborers worked willingly, Cuban sugar mills relied upon forced enslavement, thus requiring physical force, punishment,


27 See chapter two, “The Cuban Hacendado’s Scientific Might.”
and confinement to keep the slaves constantly working and well-behaved.

The constant threat of a slave rebellion significantly affected plantation architecture, as did the systems of power implemented by the Cuban planters. Saint Domingue experienced the first successful slave rebellion in America, and after it rebellions succeeded all over Spain's New World colonies.\(^\text{28}\) In addition, the rapid expansion of plantation architecture in Cuba and the enormous increase in the number of imported African slaves soon led to more frequent local uprisings. "Between 1820 and 1844 there were over half a dozen small slave disturbances and rumors of many more."\(^\text{29}\) The planters were perpetually haunted by the fear of a slave rebellion that could destroy their properties, taking their lives and converting the island into another Haiti. Knight argues that "this state of affairs heightened the specter of a violent racial confrontation," and sugar planters gradually increased the exercise of power and security measures.\(^\text{30}\)

As the size of the slave gangs became larger, there were many changes in the treatment and operation of the slave labor, and the slaves became more alienated from the traditional semi-extended family relationship (patriarchal society). Large infirmaries became necessary to treat the illnesses; the collection of individual huts gave way to long barracks, which the owner thought were more secure, since the two main doors could be locked at night. The conucos disappeared, as the planters put more area under sugar cane and relied on the

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\(^{28}\) "The specter of mobilized masses cast a long shadow over the New World. St. Domingue was first, of course, and the implications of the successful slave rebellion in the French colony were immediately clear to all New World plantation societies. Social upheaval engulfed Mexico in 1810, when Indians and mestizos mobilized to challenge the colonial elites, both Peninsulares and Creoles alike. The stirrings of the castas of Venezuela and the Indians in Peru, as well as new slave uprisings—in Jamaica in 1795, 1824 and 1841; in Barbados in 1804 and again in 1824; in Demerara in 1808; and in Antigua in 1831—underscored the potential threat posed by the poor and powerless to the rich and powerful." Louis A. Pérez, ed., *Slaves, Sugar & Colonial Society: Travel Accounts of Cuba, 1801-1899* (Wilmington, DE: Scholarly Resources, 1992), xvii, xviii.


\(^{30}\) Knight, *Slave Society in Cuba*, 96.
imported food.\textsuperscript{31}

Thus "security from people of color developed into the principal concern of the planter class" leading to defensive strategies such as that implemented in the dwelling house at Soledad, which according to Edwin Atkins, was built in 1848, with walls “several feet thick” as a defense “in case of an uprising of negroes.” Other planters excavated deep basements under their houses to serve as shelters and to conceal the family members in the event of a slave rebellion.\textsuperscript{32}

These defensive strategies were exceptions to the rule, as sugar planters opt more frequently for oppressive actions, increasing control over the slaves and exercising their power more rigorously. Knight argues that since plantation society depended on "coercion for its order and stability, the master class formulated an entire system of laws designed both to police the slaves as well as ensure their subordination and exploitation."\textsuperscript{33} Numerous writers agree that Cuban planters preferred regimentation of life, constant surveillance, and confinement to lashing or punishment. Nicolás Tanco Armero, for example, says that,

\begin{quote}
The Enlightenment too, it must be said, produced similar favorable results, and the new plantation owners, more enlightened than their parents, suppressed whipping, imprisonment, etc., adopting a system more in harmony with the principles of humanity and the century.\textsuperscript{34}
\end{quote}

Other travelers, like Richard Henry Dana, considered that punishments were the last

\begin{flushright}
\textsuperscript{31} Knight, \textit{Slave Society in Cuba}, 68.
\textsuperscript{33} Knight, \textit{Slave Society in Cuba}, 189.
\end{flushright}
resource in the system of exploitation and control implemented in Cuban plantations. He states,

It seems to me that the work of a plantation is what a clock would be that always required a man's hand pressing on the main spring. With the slave, the ultimate sanction is force. The motives of pride, shame, interest, ambition, and affection may be appealed to, and the minor punishments of degradation in duty, deprivation of food and sleep, and solitary confinement may be resorted to; but the whip which the driver always carries, reminds the slave that if all else fails, the infliction of painful bodily punishment lies behind, and will be brought to bear, rather than that the question be left unsettled.  

Nevertheless, whipping and punishments were always undertaken by the *mayoral* and the *contramayoral*, never by the “Enlightened” master, and most travelers and writers establish clear differences among them. The Cuban planter is generally described as benevolent and interested in his slaves' well-being, while the *mayoral* (chief of the Negro laborers) is usually the ruthless figure, defined by his cruelty, who whips the slaves to make them work, to fix disputes, or to stop fights. The countess of Merlin recalls,

The time of harvest is the most terrible, but also the most desired: it is the moment of clemency. The master is there, close to the slaves, listens to them and forgives them if they have been punished, and he restrains the mayoral, always harsh and unyielding in his rigor. But the most feared adversary is the *contramayoral*, slave like the others, and because of this, harsh and cruel to his coworkers.

This disparity between the two figures is of course a false opposition, since the master allowed and relied on the mayoral’s punitive actions. Traveler writers, whose stories and interpretations were molded by their hospitable host, constructed this opposition, which I argue

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represents the two contrasting forms of power exercised in Cuban sugar mills: traditional versus modern power. The first was based on physical punishments and confinements, and is usually represented by the mayoral; the second was based on Enlightenment’s ideas of knowledge, surveillance, and discipline, and is incarnated by the master.

The master is usually described as having a power immanent in his persona, his enlightened spirit, and his “natural” authority. His mere presence had interesting effects on his slaves. Richard Henry Dana says,

The mere personal presence of the master operates as a stimulus to the work. This afternoon young Mr. C____ and I took horses and rode out to the cane-field, where the people were cutting. They had been at work a half hour. He stopped his horse where they were when we came to them, and the next half hour, without a word from him, they had made double the distance of the first.\(^{38}\)

On his part, Antonio C. N. Gallenga, says,

I have seen crowds of them clustering round Señor Zulueta, on their knees, joyously crying, "El Amo! El Amo!" as if the master were a demigod to them and his presence among them an angel's visit, descanting on the extra work they had voluntarily accomplished, and soliciting a reward . . . . And yet far above the overseer's whip, the mere flash of that master's eye, the mere ring of his voice, strike awe and submission into the whole establishment, and seem to set the very engines to work in double-quick time. We have here moral influence and discipline at work.\(^{39}\) (see fig. 3.8).

In contrast, the _mayoral_ or overseer is usually defined as "an unreasoning, unfeeling man, of a brutal mind" who "had been brutalized by his calling — had no energy of character, nor sense of religion, nor enlightenment, to resist the debasing influence of slavery."\(^{40}\) Richard

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\(^{38}\) Henry Dana, _To Cuba and Back_, 137.


Henry Dana stated that "the mayoral comes, of necessity, from the middle class of whites, and is usually a native Cuban, and it is not often that a satisfactory one can be found or kept." The mayoral's responsibility was the general oversight of the slaves, at their work or in their houses, and he was in charge of exacting labor and enforcing discipline (see figs. 3.7). More than to execute punishments, his role was to keep a constant eye over the slaves, as John Glanville Taylor says,

The overseers watches them as does a cat a mouse; he is 'up to' every 'dodge' in the negro calendar schemes, and detects in a second the quickest possibly executed movement . . .

The ones in charge of whipping were the contramayorales, who were under the mayoral and were almost always black slaves. Richard Henry Dana says,

One of them goes with every gang when set to work, whether in the field or elsewhere, and whether men or women, and watches and directs them, and enforces labor from them. . . . [They] carry under the arm, at all times, the short, limber plantation whip, the badge of their office and their means of compulsion.

Thus, sugar mills' authority was hierarchical, with each position exercising a different form of power. The planter was the mastermind, who formulated all the laws and rules and who devised the architectural structures that could facilitate its accomplishment. The mayoral and contramayorales, respectively, were in charge of exercising power through surveillance and punishment.

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41 Henry Dana, To Cuba and Back, 134.


43 Henry Dana, To Cuba and Back, 135-136.
Power was directly related to racial divisions and whites occupied the topmost positions. However, the number of whites in a plantation was quite small, not being larger than 15 in the sugar season (less than 10 in tiempo muerto or dead season). This included the administrator, the overseer or mayoral, and the bookkeeper or mayordomo. Seasonal white employees included the engineer or maquinista and the sugar master or maestro de azúcar, who worked during the zafra; and the doctor or practitioner, who visited the plantation daily, weekly, or upon request. Describing the population of the Santa Sofía, W.M.L. Jay (Julia Louisa M. Woodruff), states:

. . . that of Santa Sofía numbers about four hundred souls, of whom not more than a dozen or fifteen are contained in white skins; a disproportion which seems to justify, in a measure, the firearms, whips, chains, locks, gratings, etc., which are so prominent a part of its system.

Thus, to gain mastery over hundreds of slaves, sugar planters had to devise a system of power that could be implemented by few white officers. This system, as I have argued before,

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44 The regular and permanent white officers of a plantation were the administrator, who was the second in command, in charge of the management of the estate in the absence of the owner; the mayoral, who was the chief of the Negro laborers, in charge of supervising their work and enforcing discipline; and the mayordomo or bookkeeper who was the purser and kept the accounts, being in charge of the stores, produce, materials for labor, and provisions for consumption. Other seasonal employees working only during the zafra time were the maquinista or engineer (with two or three white assistants) in charge of the mill and its machinery; and the sugar master or maestro de azúcar, who was a chemist, or more accurately a cooker, in charge of “cooking” the sugar and determining the time and quantity of the water or lime to reach the perfect temperature on the kettles. The doctor visited the plantation daily, weekly, or upon request if the slaves were numerous; if not, they had a nurse or a black healer. Samuel Hazard says about the engineer, "[he] is really the most important man upon the place, as upon him depends the grinding of the cane and the care of the mill and its machinery . . . These engineers are mostly young Americans, with now and then an Englishman or a German; but the Americans, I found, were much preferred . . . " Samuel Hazard, Cuba with Pen and Pencil, (1870; repr., Oxford: Signal Books, 2007), 292. See also Henri Dana, To Cuba and Back, 133-135; Glanville Taylor, The United States and Cuba, 187; and Julia Ward Howe, A Trip to Cuba (Boston: Ticknor and Fields, 1860), 74-75.  http://name.umdl.umich.edu/AGD8622.0001.001 (accessed November 4, 2014).

wavered between traditional and modern forms of power (negative and positive), each of them developing specific architectural structures and spatial strategies to accomplish their goals. I have identified four main strategies with consequent architectural spaces and forms, listed below:

1. **Structured routine:** As in contemporary factories and workhouses, Cuban planters developed a system based on clockwork regularity of space and time. Thus, the bell tower became an important and indispensable element in every sugar mill.

2. **Constant surveillance:** It was achieved through open spaces (like the *batey*) and enclosed courtyards (like those of barracks, infirmaries, and nurseries), with specific points of surveillance, such as the ones located in the main house, the towers, and the *mayoral’s* apartments.

3. **Isolation and confinement:** The combination of individual cells, surrounding walls, iron gates, and bolts was intended to keep the slaves confined at night.

4. **Physical punishment:** It was the “last” resource, but the most common one. Spaces for whipping, confinement, and punishment (in the form of stocks and chains) were allocated in each complex.

Through the mechanism of confinement, sugar planters controlled the slave's movements, preventing escapes and rebellions; through surveillance mechanisms, they controlled the slaves’ actions, supervising their work and behavior. And through the implementation of a structured routine, they were able to increase production and profit, keeping the slaves occupied at all times to avoid unwanted and dangerous lingering. Lastly, when everything else failed, the prospect of whipping and punishments constituted a constant reminder of the consequences of insubordination or resistance.
Clockwork Regularity of Space and Time

As in contemporary factories and workhouses, Cuban planters developed a system based on clockwork regularity of space and time. They designed strict routines, in which they determined who did what, where, with whom, when and observed by whom.\(^{46}\) Time and space were thus joined in rules that controlled each stage of production and manufacture of sugar and assured a constant rotation of the labor force. Slaves learned strict time keeping, discipline and compliant behavior, and they had to follow the regulatory power of the machines.

Every serious sugar planter had a carefully planned annual cycle of work calculated to use his force as fully as possible throughout the entire year, which for the Cuban sugar industry, had two important cycles: \textit{zafra} or crop-time and \textit{tiempo muerto} or dead season (planting season). The crop or harvesting time lasted from three to four months, beginning in January (or the end of December), and ending in April (or May). During this season, work time doubled and every minute was precious. Maturin Murray Ballou, in his book \textit{Due South; or Cuba Past and Present}, recounts,

\ldots for when the cane is ripe there should be no delay in expressing the juice. If left too long in the field it becomes crystallized, deteriorating both in its quality and in the amount of juice which is obtained. The oxen employed often die before the season is at an end, from overwork beneath a torrid sun. The slaves are allowed but four or five hours of sleep out of twenty-four, and being worked by watches during the night, the mill does not lie idle for an hour after it is started until the grinding season is closed.\(^{47}\)

During these months the slaves averaged a workday of nearly twenty hours, and "the night

\(^{46}\) Markus, \textit{Buildings & Power}, 97.

being divided into three watches, of four hours each, the laborers taking their turns."\(^{48}\)

In the production of sugar, time was vital. Hence, in the sugar mill, everything was highly structured, and before beginning to work, each slave was informed where he was working, at what time, under whose supervision, and performing which task.\(^{49}\) Everyone had a role and duty, related to specific spaces and time frames, and the clock and the bell made possible the systematic time keeping. The day began at 4:00 or 5:00 AM with the Ave María, and from then on, the bells sounded at regular intervals.\(^{50}\) John Glanville Taylor visited the sugar estate of Santa L., near Guines, and narrated in detail the daily schedule of the mill:

\[\ldots\] When the morning star indicates the near approach of dawn, he (the overseer) rises and generally rings the great bell himself. This is called the “Ave Maria,” and it is pleasant to hear the hour struck by a number of bells, when many estates join. \ldots\] The negroes, who are however already up, are allowed some little time to get ready. \ldots\] When now the dawn is plainly declared, two or three taps more are given on the bell, and the whole sally forth. \ldots\] All arrived at the overseer's quarter, he reads the names, to which all must answer. They are generally fully informed of their work for the day, on the preceding evening \ldots\]. The bell again sounds at twelve, and generally an hour and a half’s recess is allowed for dinner \ldots\]. They are not all bound to present themselves at noon, for most prefer to hold out till they finish the task. \ldots\] After the sun has set about a quarter of an hour, the bell is again sounded; this is called “La Oración,” or the hour of prayer. The negroes may now go where they please for the next two hours. At the end of that time the bell is smartly struck three or four times, and all repair to the front of the mill house. They are now expected to work an hour by the light of a large fire of cane trash, which is kept burning in the middle of the yard, when there is no moon. This work is called “La Fagina,” because performed at the light of a faggot \ldots\]. At nine, the bell sounds a stroke, and the fagina being over, all come together; the roll is called, and the people file off one by one repeating "Buenas noches, mi amo" (good night my master). At half past nine, two very light strokes of the bell are heard, the signal for silence and sleep.\(^{51}\)

\(^{48}\) Henry Dana, *To Cuba and Back*, 130-131.

\(^{49}\) Knight, *Slave Society in Cuba*, 72-73.

\(^{50}\) Markus, *Buildings & Power*, 250.

\(^{51}\) Glanville Taylor, *The United States and Cuba*, 185-188.
Moreno Fraginals in his famous book *The Sugarmill*, gives the best account of details regarding the shifts and organization of work in a Cuban sugar mill:

The limit of a slave's work day was his physical capacity. He began to the nine chimes of the Ave Maria and ended to the nine chimes of Vespers. Another bell summoned him at noon to return to work until he heard the evening call to prayer, when he left the fields to cut hay for the animals and do other marginal jobs. The cart drivers, having already spent eight to ten hours in the fields, rotated with boiling-room blacks and continued working until dawn. The cutters became feeders of cane into the grinding mill and carters of dry and green bagasse. Boiling-room workers shifted to the curing house. Each group went off to sleep for three, four, or at the most five hours as this fantastic rotation system continued. Administrators and overseers saw to it that the process was meticulously carried out so that, alternating in the various jobs, the slaves worked a full day of seventeen, eighteen or twenty hours.52

The bell was, thus, an essential element in the Cuban sugar mill, not only to regulate and time the different activities and chores, but also to announce a fire, a rebellion, or any other emergency. John George F. Wurdemann relates,

As soon as the fire is discovered the large bell of the estate, which can be heard several miles away, is rapidly tolled, and the neighboring estates at the summons disgorge their troops of slaves, who hasten to the spot.53

In some sugar mills, bells hung from iron structures; while in others, they were located inside tall and imposing towers (see figs. 1.28 – 1.33).54 In some cases, bells were part of the *portada* of the slave barracks, inside high towers crowning the monumental entrance (see figs. 1.34 - 1.37). When not located on top of the barracks’ entrances, bells were usually placed in a middle point between the slaves’ dwellings (either barracks or bohíos) and the factories. This is


54 See chapter one, “Chimneys, Towers, and Portadas: Monumental and Vertical Icons.”

The ringing of the bell and the frequency of its toll communicated the type of call as well as its urgency. According to Alberto Perret Ballester, nine rings announced the Ave María at dawn, the midday at twelve, and the “hour of prayer” at dusk. In addition, two rings called the oxherd, and three the overseers and the administrator; fires were announced through continuous rings, while a light, quick peal announced the departure of a slave for the mill cemetery.55 According to travelers' accounts, slaves even recognized the sound of their sugar mill's bell (see fig. 3.9):

Then the *ingenio* sounded the bell rings for prayer, the first with a space between one and the other, the rest occurring rapidly; and they [the slaves] could hear the bells of the neighbor estates, and they could recognize their provenance because of their distinct sounds, until they entered the wide *batey*, illuminated by the moon.56

The structured routine allowed masters and managers to avoid idle activities, to ensure production, and to construct an orderly industrial community. According to Franklin Knight, "the monotonous repetition which characterized the routine of the slaves drained them of initiative and retarded the development of their skills and intelligence."57 By never letting the slaves remain idle, the masters also assured their obedience and avoided spare time that could

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55 Alberto Perret Ballester, *El azúcar en Matanzas y sus dueños en La Habana: Apuntes e iconografía* (Havana: Editorial de Ciencias Sociales, 2007), 298. According to Moreno Fraginals, the mill’s bell ringer "was generally an old Negro useless for production tasks, psychologically and physically unfit for flight, living his daily death beside the tower." Moreno Fraginals, *The Sugarmill*, 148-149.


57 Knight, *Slave Society in Cuba*, 189.
be used to plan conspiracies or rebellions.

The time-discipline of the factory system also required spatial correlates, demanding proximity between the sleeping and working quarters, and between the cane fields and the industrial installations. Thus, a centralized, symmetrical general layout, as studied in chapter one, was particularly convenient because it favored the economy of time, allowing for quick and easy circulation. In addition, this type of layout also favored confinement, and a tighter control over the spatial landscape. Examples of this type of outline are noticeable in the floor plans of La Ponina and Armonía sugar mills (see figs. 1.17 and 1.18). In this layout, the *guardarrayas* (roads) that originated in the center of the batey and radiated to the cane fields, also allowed the fastest distribution of laborers to the fields and the return of cane-filled carts to their immediate deposit into the mill (see figs. 1.15 and 1.16). Lastly, the close proximity between the slave quarters and the factories also saved time for the laborers as they moved between their sleeping and working quarters.

**Surveillance and Restricted Movement in the General Layout**

By the careful planning of the general layout, sugar planters were able to locate persons, buildings, and machineries; to control the paths of movement and the degree of choice; and to devise visual paths that could ensure surveillance and visibility at all times. Enclosing gates, open areas with vertical structures, and ringing floor plans with interior yards facilitated the supervision of every movement and the recording of every event, thus ensuring discipline and achieving power.

The interest in visibility and supervision was common to eighteenth-century society,
which according to several thinkers was one “not of spectacle, but of surveillance.”\textsuperscript{58} Foucault, studying the Panopticon, argued that panopticism is the opposite of the dungeon; rather than enclose, deprive light, and hide one, panoptic surveillance through “full lighting and the eye of a supervisor captures better than darkness . . . Visibility is a trap.”\textsuperscript{59} As a result, power is now visible and achieved through order and surveillance, and individuals are brought, through spatial and architectural manipulations, under what Foucault calls the “eye” of power.\textsuperscript{60}

In his book \textit{The Archaeology of Social Space}, James Delle states "the spatiality of surveillance as a means of social control may be nowhere better expressed than in plantation contexts."\textsuperscript{61} Since overseeing the daily work and movements of slaves was key to ensure production and avoid escapes and conspiracies, sugar planters manipulated the spatial organization of plantations to their advantage in an effort to achieve the constant supervision of enslaved workers and to control their movements. For these purposes, they not only guaranteed surveillance, but also applied confinement measures through enclosed spaces.\textsuperscript{62}

In order to achieve constant surveillance, the first requirement was to have confined spaces, with clear boundaries and limits that restricted the free movements of slaves. Most travelers mention enclosing walls delimiting Cuban estates. At the entrance, the \textit{guardieros} or guardians were stationed in small huts and acted as porters. According to Hazard, these

\begin{itemize}
\item \textsuperscript{58} Foucault, \textit{Discipline and Punish}, 216-17.
\item \textsuperscript{60} Foucault, \textit{Discipline and Punish}, 201.
\item \textsuperscript{61} Delle, \textit{An Archaeology of Social Space}, 159.
\item \textsuperscript{62} Theresa A. Singleton, "Slavery and Spatial Dialectics on Cuban Coffee Plantations," \textit{World Archaeology} 33, no. 1 (June, 2001): 98.
\end{itemize}
guardieros were “generally old men unfit for hard labor.”\textsuperscript{63} Frederick Townshend, who visited a sugar mill two miles distant from Marianao, recalls, "at the gate of the plantation we were stopped by an old negro armed with a musket, who examined our pass before allowing us to proceed. We then drove on through immense fields of cane on either hand, until we reached the 'ingenio.'\textsuperscript{64}

In addition to enclosing the property’s domain, planters also enclosed the slaves' villages, where bohios were located. In her article, "Slavery and Spatial Dialectics on Cuban Coffee Plantations," Theresa A. Singleton studies the archaeological site of the Angerona sugar mill in Havana (originally a coffee plantation) and the remnants of a wall enclosing the slaves' village (see fig. 3.12). According to the author, this wall was made of mampostería (masonry) with an iron gate, and it was built to confine the enslaved population to their dwellings, preventing slave revolts or runaways, two of the most overt forms of resistance. Singleton argues that nineteenth-century written and visual sources on Cuban slavery suggest that enclosing a slave village within a wall was a known practice.\textsuperscript{65}

Nevertheless, the use of mampostería walls to enclose slaves' villages was quite rare compared to the use of wooden fences, which served as a demarcating element, but without restricting visibility. In Laplante's image of the Manaca Iznaga sugar mill, wooden posts delimit the slaves' village and separate it from the rest of the complex (see fig. 4.76). Wooden

\textsuperscript{63} Hazard, Cuba with Pen and Pencil, 297.


\textsuperscript{65} Enclosing walls were also intended to prevent runaways and to keep slave raiders away from enslaved laborers. Slave raiders were white peasants who stole black laborers from one plantation to sell them to another one. Singleton, "Slavery and Spatial Dialectics on Cuban Coffee Plantations," 103.
fences are also noted in Laplante's lithographs, delimiting the spaces and domains of the main house (see figs. 1.46 and 1.48), the overseer's house (see fig. 1.53), or the infirmary (see fig. 3.42). Wooden fences of short height were almost always preferred because they did not restrict visibility, as a solid wall would have done, but established clear boundaries and kept the grounds organized.

In almost every sugar mill's layout represented by Eduardo Laplante, the predominant quality is an extreme openness and visibility, with a profusion of open spaces (see figs. 1.26, 1.27, and 3.13). Openness guarantees the visibility required to perform surveillance from specific places, strategically located for this end: the bell tower, the *casa de vivienda*, and the house of the administrator. The sole possibility of “being watched” had the power to achieve total and continuous control. As argued by Jeremy Bentham, "the sentiment of an invisible omniscience . . . which a simple architectural contrivance affords has been proved so wonderfully . . ."\(^{66}\)

The bell tower was the observation point par excellence in the Cuban sugar mill. Due to its strategic location and height, the view from the tower included the batey, the sugarhouse, the cane fields, and the slaves' dwellings. In the lithographs of the Unión and Manaca Iznaga sugar mill, the impressive height of the tower and its central location suggest that the entire complex could be surveyed from its height (see figs. 1.27 and 1.20). In the case of the Intrépido sugar mill's tower, which does not house a bell but rather functions as a dovecote, Cantero mentions that, located in an elevated terrain, it served as a place where the *guarda candela*.

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(groundkeeper) could watch everything happening on the ingenio (see fig. 3.10).  

The gallery of the main house was the second surveillance spot par excellence. When located on one side of the batey, at ground level, the galleries overlooked the open space in front of the sugar house, surveying every activity performed in front of the mill or boiling house, such as in the cases of the La Ponina, Armonía, San Martín, Purísima Concepción (a) Echeverría, etc. (see figs. 1.17, 1.18, 1.21 and 2.38). In the Conchita sugar mill located in Unión de Reyes, Matanzas, the casa de vivienda had two galleries, one at ground level and another at the second level; from both of them the masters were able to survey the entire batey, the factories and the main axial avenue (see fig. 3.15).

When the main house was in an elevated spot, the galleries overlooked the entire complex and valley, such as at the Manaca Iznaga, Buena Vista, and San José (a) La Angosta sugar mills (see figs. 1.20, 1.24 and 1.25). William Drysdale, who visited the sugar mill Hormiguero at Palmira, about twenty miles from Cienfuegos, relates:

. . . seated in the shade of the vines on the veranda, [we] had a chance to take a first look at a big sugar-mill. The mill stands immediately opposite the house, two or three hundred feet away, and as it is open throughout, without walls to obstruct the view, the owners can sit on the veranda and watch every motion of machinery. If anything goes wrong they can be on the spot instantly and help set it right.  

Lastly, the house of the administrator was also strategically located to survey the work of the slaves. In the floor plan of La Ponina sugar mill, for example, the house of the

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67 Stylistically eclectic, with a pagoda-style look, it foretells the influence of the Chinese laborers who were quite numerous in the region. Justo Germán Cantero and Eduardo Laplante, Los ingenios: colección de vistas de los principales ingenios de azúcar de la Isla de Cuba (1857; repr., Madrid: Centro Estudios y Experimentación de Obras Públicas, 2005), 231.

Administrator is conveniently located overseeing the batey and very close to the slave barracks and the bell tower (see fig. 1.17). In the case of the San Martín sugar mill, the same house is located in front of the batey and the boiling house (see fig. 1.21).

In addition to confinement, openness and points of observation, Cuban sugar planters implemented a strict geometric regularity in the overall organization, a strategy that further aided visibility and surveillance. The distribution of the bohíos, for example, was meant to facilitate surveillance and control all the slaves’ movements. According to Manuel Moreno Fraginals, in his book Los ingenios, until the eighteenth century the allocation of bohíos did not follow any given order (see fig. 3.16), but with the increase of the slave population and the consequent difficulty of surveillance, bohíos began to be allocated in regular and geometric patterns.69 One distribution “highly recommended” in the early nineteenth century was the “U” formula, with the bohíos allocated in parallel lines, their doors opening to the interior space, and a bigger dwelling on one end closing the patio, and inhabited by the personnel in charge of vigilance (see fig. 3.17). This is the distribution depicted by Laplante in the ingenio Intrépido in Cárdenas, figure 3.10. Other regular distributions can be noted in the bohíos of the Manaca Iznaga and Buena Vista sugar mills (see figs. 4.76 and 4.78).70 The last arrangement analyzed by Fraginals is the predecessor of the Cuban barrancones or slave barracks (see fig. 3.18).

In each of these sugar mills, slaves' houses are structured in front of a great opening (see figs. 3.10 and 3.11). In the case of the Güinia de Soto sugar mill, the house of the mayoral leads the row of bohíos, while the house of the owner is at the opposite side of the open space (to the

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right of the lithograph, fig. 3.11). This combination of open spaces, regularly organized houses, and strategic point of surveillance allowed strict control and vigilance.

The Slave Barracks: Isolation, Confinement, and Surveillance

The rise in the number of slaves in every Cuban plantation after 1789, along with the Creoles' constant fear of a slave revolt, resulted in the emergence of a prison-like structure introduced in many Cuban sugar mills to substitute for the slaves' *bohios* or individual houses (until the nineteenth century the only housing typology used to allocate the slave population). The use of barracks was encouraged by the Cuban authorities between 1828 and 1842 in several publications, usually responding to the unfolding of several slave revolts. One of the first calls to modify the slave housings was made by the governor of Matanzas, Cecilio Ayllón, after one of the most violent slave rebellions of Cuba, on June 15, 1825, in Guamácaro. Article 14 of the *Reglamento de policía rural de la jurisdicción de Matanzas* (Regulations of the Rural Police of Matanzas), issued that same year, states:

> From this date and in three years, every estate with a slave endowment of more than 30, must have built a building to house and lock them, with the appropriate accommodations and separations by sex and civil state.\(^7\)

In 1831, Honorato Bernard de Chateausalins (a professor of the University of Havana and member of the Sociedad Económica Amigos del País), made the first reference to the term *barrancón*, in the *Vademecum de los Hacendados Cubanos*. He recommended that sugar

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\(^7\) Cantero and Laplante, *Los ingenios*, 136.

\(^7\) The rebellion was one of the most violent of Cuba, and included about 400 slaves from around 20 coffee plantations, who killed 16 white men, women and children, and destroyed several plantations. Roura Alvarez, "El bohío," 11.

masters build slaves' houses in form of barracks "with only one door, which the overseers could lock every night."  

Years later, the slave barracks were institutionalized in articles 25 and 26 of the 1842 Slave Laws, which state:

... the masters will take care of building for the single slaves spacious rooms in a dry and well ventilated place, with separation of the sexes, and well locked, in which a light will be kept on throughout the night.

Even though numerous planters throughout the island disregarded the authorities’ recommendations and decided to keep their slaves living in individual bohíos, as will be analyzed in chapter four, many others modernized their installation and adopted the barrancón as the new slave housing typology. Numerous barracks were built between the 1830s and 1840s, and became quite popular in the region of Havana and Matanzas.

The barrancón constitutes a uniquely Cuban architectural phenomenon, without any precedence or repercussions in other plantations of the Caribbean, Brazil, or the United States (see figs. 3.19 - 3.25). However, it resembles an architectural idea, Jeremy Bentham's Panopticon implemented through hundreds of prisons, hospitals, and workhouses all over

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75 Reglamento de Esclavos (Código Negro Hispano-cubano), 1842, in Ortiz, Hampa Afro-Cubana: Los Negros Esclavos, 488. Translation mine. See also Moreno Fraginals, El ingenio, 2: 66-67, 74; Levi Marrero, Cuba: Economia y sociedad: Azúcar, ilustración y conciencia, 1763-1868 (Río Piedras, Puerto Rico: Editorial San Juan, 1972), 235; Roberto López Bastida et al., Trinidad y el valle de los ingenios: Guía de arquitectura / An Architectural Guide (Trinidad, Cuba: Asamblea Municipal del Poder Popular de Trinidad; Sevilla: Junta de Andalucía, Consejeria de Obras Públicas y Transportes, Dirección General de Arquitectura y Vivienda; Madrid: Agencia Española de Cooperación Internacional, 2003), 52-53.

76 Roura Alvarez, "El bohío," 9; Francisco Pérez de la Riva, La habitación rural en Cuba (Havana, Cuba: Editorial Lex, 1952), 65; Moreno Fraginals, El ingenio, 2: 74.

77 Moreno Fraginals, El ingenio, 2: 74.
Europe and the United States (see figs. 3.2 and 3.3).\textsuperscript{78} Following the panoptic idea, the Cuban slave barracks isolated individuals in order to control them (one cell for each person);\textsuperscript{79} relied on orderly segregation and inspection (separate wings for different races and genders); had open visibility and a central point of surveillance to maintain discipline at all times; and incorporated a restricted entrance to maintain control. According to many authors, Cuban barracks were meant to prevent slave rebellions or runaways, and were specifically designed to concentrate all the slave population in one place for easy surveillance and stricter forms of control.

The slave barracks were a large, quadrangular or U shaped building, usually located near the factories and as far as possible from the main house.\textsuperscript{80} Built of brick and tiles, it consisted of a system of cells organized around a central patio, each of them with only one door opening to the interior corridor and a small window (with iron grilles) looking to the exterior. The barracks were huge constructions, sometimes with more than 100m long on each side (see figs. 3.22 and 3.25).\textsuperscript{81}

\textsuperscript{78} Robert Adam's design for the Edinburgh Bridewell (1791) followed the Panopticon model, along with multiple eighteenth-century hospitals, prisons, etc. Markus, Buildings & Power, 17.

\textsuperscript{79} The mass, the crowd, is thus abolished and replaced by a collection of separate individualities, rendering them powerless. Bentham had foreseen that cellular solitude was crucial to preventing prisoner solidarity.

\textsuperscript{80} Pérez de la Riva mentions that slave barracks were located as far as possible from the main house, to avoid bad odors, the screams of the slaves being punished, the blasphemies of the overseers, or the dogs barking. Pérez de la Riva, La habitación rural en Cuba, 66.

\textsuperscript{81} The slave barrack of the Flor de Cuba sugar mill was one of the biggest of Cuba, measuring 144 x 128m (170 x 100 varas or yards). Slave barracks usually measured between 75 and 175 varas on each side, and had around 19 rooms per wing (for a total of 80 to 100 interior rooms). It was common that barracks measured 100 x 100 varas (such was the case of the Santa Teresa (a) Agüica, San Rafael and Monserrat sugar mills). Of the San Martín sugar mill's barrack, Cantero mentions it had 100 interior rooms, and measured 360 feet (109m) on each side, with 25 rooms on each wing. According to these numbers, each room would have measured around 4 meters wide, (since a rectangular floor plan is suggested in the floor plans, we can assume it measured 6 meters long) for a
In quadrangular barracks, there was only one restricted access. The main access consisted of an iron gate opening into a vestibule, followed by a second iron gate that gave access to the interior patio (see fig. 3.19). This double entrance, the first wider and monumental, the second, narrow and single, are clearly represented in Celestino del Pandal’s floor plans of the San José and Santo Domingo slave barracks (see figs. 3.23 and 3.25). According to Fernando Ortiz, a special mechanism was included to control the entrance (see fig. 3.21):

On the main door, there was a mechanism in the center, like a tourniquet, made with a vertical log that spin around two shafts, on the lintel and on the threshold, and which had two sticks crosswise, with a length similar to the width of the door: this apparatus had two functions: to facilitate the counting of the slaves entering and leaving the barrack and to impede the entrance of horses to the interior of the building.  

Besides the tourniquet, Ortiz states that on this gate an armed man was on guard every night and the entrance was closed at nightfall, with the inmates kept in strict confinement till the morning.  

In addition, Frederick T. Townshend, after visiting the barrack of a sugar mill near the town of Marianao, recalls: "As we passed in, two ferocious-looking Cuban bloodhounds, chained one on either side of the gate, sniffed suspiciously near our legs, but, being trained to run down or attack negroes only, did not molest us." 

After passing this restricted entrance, the visitor encountered an open yard, with a kitchen or a well located in its center and surrounded by exterior passageways leading to the total of 24m² each room. Cantero and Laplante, *Los Ingenios*, 131, 179; Marrero, *Cuba: Economía y sociedad*, 236.

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individual cells (see fig. 3.19 – 3.22). These long passageways were covered with a monopitched roof supported by wooden posts, and constituted a sort of gallery for each cell. The ruins of the slave barrack of Santa Gertrudis sugar mill in Colón, Matanzas (see fig. 3.27), are currently inhabited by hundreds of families, who prolonged the boundaries of their apartments into the exterior passageway, clearly demarcating their galleries and access to their properties. This structure still preserves many of the original wooden elements, such as doors, windows, beams and roof framework —however, sheets of zinc have substituted the original tiles of the roof.

Julia Louisa M. Woodruff describes the slave barracks of the Santa Sofía sugar mill with these words:

A quadrangular structure, which exterior presents to view only a high wall, without other opening than a massive and somber archway, closed by an iron gate. The mayoral turns key, draws bolt, and ushers us into a large court, covered with a scanty growth of coarse, wiry grass. In the middle is a stone fireplace and huge boiler, wherein certain kinds of cookery are done, in the lump, for the entire tenantry. Around us is a hollow square of two-story dwellings, in as close contiguity as the cells of a honeycomb; the second floor being reached by means of exterior galleries and staircases, and each room serving for home to a limited family.

Similarly, H. B. Auchinloss, describing the barrancón of the San Martín sugar mill, located in Cárdenas and belonging to the Pedroso family (which had around 900 slaves), says,

It [the barrancón] occupies the entire side of the square, and is itself a hollow square, with long sheds, substantially built of bricks, running around it; the doors opening into the inner court, in the style common to Spanish and South American cities . . . . In the center of the court is a large building with a steam-engine for pumping water and a furnace, in which the food for nearly a thousand

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souls is cooked in common.\(^87\) (see fig. 3.20)

In most of the Cuban slave barracks, the apartment of the black contramayoral and his family was located at one side of the entrance, while the house of the overseer was located on the second level, above the entrance.\(^88\) These constituted two strategic observation points, from which they could control the entrance-exit at all times and could command a view of the entire yard and cells. This ensured surveillance and control at all times. In Celestino del Pandal’s floor plan of La Concepción slave barrack, the apartment of the mayoral is located at the left of the entrance vestibule, and accessible from the front of the building, instead of the interior patio, as the rest of the cells (see fig. 3.24). Julia Louise M. Woodruff also describes the mayoral's apartment in the Santa Sofía sugar mill's barrack:

Over the gateway is the apartment of the *mayoral*, with the door in the side of the arch, anterior to the gate, and a window opening on the court. It has grim provision of firearms, and is evidently a small fortress, commanding the whole interior, from which it would be easy to shoot down the leaders in any disturbance, and reduce insurgents to terms.\(^89\)

Considering the barrack model as a panopticon, the overseer's house would have served as the central point of surveillance, from which, without leaving the confines of his house, the overseers could survey the domestic quarters of the workers and watch as they walked from their houses to their works.\(^90\) The workers could never be entirely sure whether they were being


\(^{88}\) Cantero mentions that in the Santa Teresa (a) Agüica and Trinidad sugar mills, the house of the *mayoral* was located on the second story (above the entrance) of the slave barracks. In the case of the Flor de Cuba sugar mill, the two-stories high slave barrack was a multi-function building that included on the second level a chapel, an infirmary, etc. Cantero and Laplante, *Los ingenios*, 244.


\(^{90}\) Delle, *An Archaeology of Social Space*, 159.
watched, which according to the logic of the panopticon, would have made them behave and cooperate.\(^9^1\)

Justo G. Cantero mentions that in the Santa Teresa (a) Agüica and El Progreso sugar mills, the house of the mayoral was located on top of the barracks' entrance.\(^9^2\) In addition, a second level on top of the entrance is illustrated in Eduardo Laplante's lithographs of the Ácana sugar mill (see fig. 3.31). In large sugar mills, such as the San Martín and Flor de Cuba, the slaves' barracks had a second level housing on top, not only the house of the overseer, but also spaces for the infirmary, nursery, stores, etc. (see fig. 3.29).\(^9^3\) Describing the barracks of the plantation he visited in Marianao, Frederick T. Townshend says,

> Mounting a wooden staircase, at the foot of which was chained another bloodhound, we passed through a trap-door on the upper floor, and found ourselves in a wide gallery running round the court. On this gallery opened large and tolerably ventilated rooms, used as nurseries, sick-wards, lying-in rooms, saddler's rooms and stores.\(^9^4\)

The large yard guaranteed the visibility and permeability required for constant surveillance, but as a huge open space it looked misleadingly free, the apparent freedom of the plan negated by the tube-like cage of the entrance and the diminutive cells for the slaves (see fig. 3.34).\(^9^5\) The individual cells guaranteed privacy for each inmate and removed solidarity between them. In addition, the bareness of the rooms was meant to render the occupants powerless, by depriving them of every earthly pleasure. Continuing with the description of the

\(^9^1\) Delle, *An Archaeology of Social Space*, 159-160.


\(^9^3\) Cantero and Laplante, *Los Ingenios*, 196, 244.


Santa Sofia sugar mill's barracks, regarding the cells, Julia Louisa M. Woodruff says:

We look into some of the rooms, and wonder if life is worth living at such a scanty measure of comfort or attainment. There is a bed of rude plank with a blanket on it, a stool or two, a few pots and pans, two or three coarse garments hanging on the wall, occasionally a little crucifix or an image of the Virgin, — and that is all! No pleasantness within, no verdure without, no breadth of scope, no wholesome retirement—merely a place for eating and sleeping, where the slaves and coolies are driven nightly, like sheep to a pen, and locked in, until the morning's call to labor.  

A high window, with iron grilles, was usually added to each cell to guarantee natural ventilation and light, as seen in figures 3.35 and 3.36, of the sugar mills San José and Santa Gertrudis, both in Matanzas. This window can be noted in several of Laplante's lithographs, such as in the San Rafael, Santa Teresa (a) Agüica, and Ácana sugar mills (see figs. 3.28, 3.30 and 3.31). In addition, on top of the doors a transom was included to permit the cross ventilation, as still noticeable in the ruins of Santa Gertrudis slave barrack, in Colón, Matanzas (see fig. 3.36). A special explanation about the ventilation of the cells is made by H. B. Auchinloss describing the San Martín barracks:

Each one of the doors has a small hole, about six inches square, cut near the floor, to promote ventilation; and as there is a barred window high up in every room, on the opposite side from the door, good ventilation is secured.  

Another important characteristic of the Cuban slave barrack was the separation of workers according to sex and race. In many barracks separated wings were allocated for men, women, Chinese workers, or other employees, as in the cases of the Flor de Cuba and Armonía

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96 Jay (Julia Louisa M. Woodruff), My Winter in Cuba, 229.

97 Of the 10 barracks drawn by Laplante, 7 of them had windows for each cell (Trinidad, Unión, Tingüaro, Ácana, Purísima Concepción (a) Echeverría, San Rafael, and Santa Teresa (a) Agüica), and 2 were depicted with solid walls (Narciso and Monserrate). See Appendix 3, 9-16.

sugar mills (see fig. 3.19). Regarding the slave barrack of the Ingenio Santo Domingo, Celestino del Pandal explains that a rectangular bay is annexed to the right side of the building. The floor plan reveals there were no internal divisions and the entrance was through the outside, and separated from the African slaves (see fig. 3.25). Additionally, in Celestino del Pandal’s floor plan of the San José slave barrack (see fig. 3.23), a large, rectangular wing, located at the left of the main entrance and accessible through the front, is identified as “barrancón de asiáticos” (Asian barrack). However, in some sugar mills like La Ponina and Tingüaro a separate structure was built for Chinese workers, leaving the barracks just for the blacks slaves (see fig. 1.17 and 1.55).

Celestino del Pandal’s floor plans of Matanzas’ slave barracks suggest that another hierarchical separation was implemented in the allocation of workers. Larger apartments opening to the outside and located in the main façade were usually granted to higher-ranking workers, who apparently did not require the type of surveillance and restricted access inflicted on the rest of the crew. In the case of La Concepción slave barrack, for example, the rooms located in the front are identified as the house of the mayoral and mayoral’s kitchen, foremen’s rooms and kitchen, oxherd room, store, and “correction room”\(^\text{101}\) (see fig. 3.24). These rooms are not necessarily larger than the rest of the cells —except the house of the mayoral— but they were all accessible through the outside and with personal kitchens, which denotes a certain degree of improvement. These apartments on the frontal façade, opening to the outside, can still

\(^99\) Cantero and Laplante, *Los ingenios*, 178, 245.

\(^100\) In the sugar mill La Ponina, Chinese workers were allocated to a different, rectangular building located at the north of the property (see fig. 1.13). Cantero and Laplante, *Los ingenios*, 221.

\(^101\) Identified as “cuarto de corrección” (correction room), it probably functioned as the punishment cell.
be seen in the standing structure of the Álava slave barrack in Colón, Matanzas (see figs. 3.32 - 3.33).

Additional rooms included in every Cuban slave barracks were kitchens, cells for punishments (known as ceño), and latrines (see fig. 3.19). Latrines are usually located opposite the main entrance, in the middle of the posterior wing, accessible through a narrow corridor, as noticeable in Pandal’s floor plans of the Santo Domingo and San José slave barracks (see figs. 3.25 and 3.23). The attention to hygiene is also noticeable in Cantero’s remarks about the existence, in several sugar mill barracks, of restrooms for each sex, and a washing place for women, as he mentions regarding the ingenio Trinidad and San Rafael. The preferred location for the kitchen was in the middle of the interior courtyard in a simple, independent structure (see figs. 3.22 - 3.23).

One of the most interesting aspects of the architecture of the slave barracks is the way in which the external form conceals, rather than announces, the function beneath. The deplorable and squalid interiors described by the travelers, are completely hidden by the white and tall walls, like a dungeon concealing its interior. H. B. Auchinloss, for example, celebrates the “pleasant appearance” of the San Martín barracks, "The barracoons of the San Martín cover about four acres of land, and being well painted and kept in good order, have a pleasing appearance.” In addition, Eduardo Laplante's lithographs depict most slave barracks having monumental portadas emphasizing the main entrance, as analyzed in chapter one and illustrated in Appendix 3.

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102 Cantero and Laplante, Los ingenios, 166, 268.


104 See chapter one, “Chimneys, Towers, and Portadas: Monumental and Vertical Icons.”
The Infirmaries: Separation, Inspection, and Hygiene

In the eighteenth century, health began to be seen as a profitable investment all over the world. According to Franklin Knight, one of the innovations of Cuba's plantation architecture was the provision of medical facilities to care for the sick. By the early nineteenth century, the acute labor shortage in Cuba and the increase in the price of slaves, forced the planters to secure the welfare of the Africans and, hence, their economic investment. Knight argues that,

In the earlier days of slavery, some plantation owners had held the assumption that it was more economical to work a slave to death as quickly as possibly and then replace him with a new purchase than to care for the slave properly and encourage reproduction . . . The reduction in the trade with Africa and the consequent reduction in the facility to replace the work-force at a low cost, has forced some proprietors to take better care of their slaves and to promote their well-being and comfort . . .

Similarly, Nicolás Tanco Armero says,

... everything is done to preserve the wretched propriety. Economic interest, not philanthropy, has contributed to improving the condition of the slave on the island.

According to Manuel Moreno Fraginals, around the decades of the 1820s and 1830s a new policy, known as “the good treatment” was implemented throughout Cuba’s plantations, mostly coinciding with the beginning of the slave contraband and the first outbreak of cholera in the island. Since the price of a slave tripled, sugar planters started to modify those factors that provoked their premature death, in an effort to prolong their productive life. In addition to these factors, several epidemics in the course of around twenty years significantly reduced the slave population. Among these diseases, the more disastrous were smallpox in 1802 and

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105 Knight, Slave Society in Cuba, 75-76.

106 Tanco Armero, Viaje de Nueva Granada a China, 39. Translation mine.
cholera in the 1830s.\textsuperscript{107}

By 1842, article 25 of the Slave Laws established as a responsibility of the owner the construction of an infirmary where sick slaves should receive medical assistance.\textsuperscript{108} Article 27 specified that this infirmary had to be a closed and secured building with separate rooms for each sex and an entirely separate wing for contagious patients. It also stated that a physician had to attend the serious cases and a nurse the minor aches, and that it should always have good medicines, proper food, and excellent hygiene.\textsuperscript{109}

Even though slave infirmaries were a standard feature in Cuban sugar mills, they varied widely in size, design and construction techniques. Sometimes it was only a room in the barracks, while on other occasions it constituted a prominent building on the site. In the Flor de Cuba sugar mill, for example, the infirmary was located on the second level of the slave barracks, while in La Ponina and Armonía sugar mills they were quite large and impressive structures. La Ponina’s infirmary measured 65 x 24 varas, and had a capacity for 250 patients (see fig. 3.37),\textsuperscript{110} while the Armonía’s infirmary measured 38 x 60 varas, and functioned, in Justo G. Cantero’s words as a real hospital, having "two spacious observation rooms and 14 rooms for the different diseases; it also had an apothecary, a room for assistants, and a kitchen, everything arranged with the correct gender separation” (see fig. 3.22).\textsuperscript{111}

Infirmaries generally enjoyed a prominent location within the site, located next to the

\textsuperscript{107} Moreno Fraginals, \textit{El ingenio}, 2: 75-76, 83, 86.

\textsuperscript{108} Marrero, \textit{Cuba: Economía y sociedad}, 240.

\textsuperscript{109} Pérez de la Riva, \textit{La habitación rural en Cuba}, 72.

\textsuperscript{110} Cantero and Laplante, \textit{Los ingenios}, 221.

\textsuperscript{111} Cantero and Laplante, \textit{Los ingenios}, 179. Translation mine.
casa de vivienda, as in the sugar mills San Martín, La Ponina and Armonía, and overlooking the batey (see figs. 3.20, 3.22 and 3.37). The floor plans are usually organized around one or two interior patios. In the description of almost every sugar mill's infirmary Cantero mentions the gender separation (male and female wards) and the separate rooms for different illness, just as stipulated by the Slave Laws. Regarding the ingenio El Progreso's infirmary, Cantero says it had three separate patios: one for Africans, one for Chinese workers, and a third for criollitos (nursery).

Describing the infirmary of the San Martín sugar mill (see fig. 3.20), which according to Cantero had a capacity for 200 patients, H. B. Auchinloss says,

The hospital it is said to be the finest on the island, and certainly surpasses any which it has been our privilege to examine in our lengthened tour of Cuba. It covers about an acre of ground, the open court in the center being partly paved and partly covered with flowers. In the middle of this court are a fountain and an aviary containing doves and quails, the whole presenting a pleasing effect to the eye. . . . To the right on entering is the Botica and Droguería, full of medicines and arranged with care . . . . To the left is the Salon de Practicante were new cases are examined and trivial ones prescribed for. The doors of the various halls, which open on the corridors, have appropriate inscriptions for males, females, and Chinese . . . . There is also a mortuary house with skulls and cross-bones over the doorway, and warehouses for drugs, dispensaries, etc. Entering one of the halls we find it full of beds, with the head-board to the wall, at equal distance apart, each precisely numbered. . . . It is evident that every care is paid to the condition of the sick.

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112 In the case of the ingenio San Martín, the infirmary was not only located next to the hacienda, but also sharing a wall and having a similar interior patio, with the same "beautiful portal" in front. Cantero states they also shared similar dimensions: 421 x 150 feet. In the floor plan, though, the infirmary seems much larger than the casa de vivienda (see fig. 3.19). Cantero and Laplante, Los ingenios, 232.

113 Cantero and Laplante, Los ingenios, 280.

114 Cantero also states that La Ponina’s infirmary had a capacity of 250 patients. Cantero and Laplante, Los ingenios, 196, 221.

In every infirmary’s description, Cantero repeatedly praises the order, spaciousness, cleanliness, and good distribution of the infirmaries' interior spaces. In addition, he makes sure to specify that each owner had met every Slave Law stipulation, sometimes rising well above the standard. Describing the infirmary of the Intrépido, Cantero says,

The infirmary has a square plan with only one door to avoid communications; the attention of the owner is manifested in [this building’s] appearance and operation; suffice it to say there is a doctor who lives on the estate, besides a nurse and three attendants. The building is divided into three spacious rooms, each for different illnesses. On Saturdays, all the beds, sheets and patients’ clothes are washed and the patients are shaved; and twice a week, the rooms are hosed down.

The concern for hygiene and isolation brought by the new “modern” and preventive medicine can be noticed in the correct separation of the patients according to the different illness in order to prevent the contagious spreading of maladies. In addition, the interest for natural light and ventilation is achieved through the introduction of interior courtyards that permitted circulation through totally opened hallways, and the cross air circulation in the interior rooms (see fig. 3.38 - 3.42).

A special attention was given to the architectural design of the infirmaries, as can be noted in the detailed floor plans of Pedro Celestino del Pandal, belonging to the ingenios La Concepción, San José, Santa Rosa, and Santo Domingo. All of them were built of masonry and

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116 “The infirmary is one of the most beautiful buildings on the site, built with masonry arches, like the rest of the buildings, and perfectly attended. It has spacious and ventilated interior rooms in which the most perfect cleanliness reigns.” (On San José (a) La Angosta’s infirmary, 256). “We will not pass silently by the infirmary, built behind the casa de vivienda; is adequate and ventilated, and it is built with masonry and tiles, with brick and cement floors, and the owner cares for every single detail that could alleviate the pain of the patients.” (on the ingenio Unión’s infirmary, 185). “…. [the infirmary] is comfortable, well-ventilated, and well-distributed, noticeable for the extreme cleanliness observed in it.” (on the ingenio Buena Vista’s infirmary, 202). Cantero and Laplante, Los Ingenios, 185, 202, 225, 232, 256. Translation mine.

117 Cantero and Laplante, Los ingenios, 232-233. Translation mine
tiles with a rectangular floor plan, an interior patio, and a portico on the front (see figs 3.38 – 3.41). The interior courtyard is usually designed as a miniature plaza, with a center and two intersecting roads. The distribution of spaces usually follows a hierarchical order, the room of the nurse and the pharmacy being at the front, while the services (kitchen and latrines) usually located at the back (see figs 3.38, 3.39 and 3.41). In the document describing the sugar mills of Domingo Aldama in Matanzas, the authors describe the infirmary of the Santo Domingo sugar mill (fig. 3.41) as follows:

The infirmary is built with masonry and tiles, with rectangular floor plan, central courtyard and four bays. The portico on the front is closed on the sides by the pharmacy and the nurse’s room.
The nave opening to the lateral portico is destined for infants and women in labor, and it is completely independent from the infirmary, with an entrance through the lateral portico, communication through the nurse’s room and a kitchen at the back.
The infirmary itself consist of a vestibule with two rooms for servants on the sides, five apartments for the sick, a great patio for ventilation and for the strolls of convalescents, a washing place, kitchen and latrine . . . At the bottom, two small rooms house the kitchen and latrines.118

In the book *Los ingenios*, the dimensions, location, and stylistic choices specified for the infirmary also demonstrate the special attention given to the design and construction of this building.119 According to Cantero's descriptions, most infirmaries were built with masonry and tiles, having galleries or beautiful porticos in their façades (see fig. 3.42).120 In the Monserrate sugar mill, for example, the infirmary stands out from the rest of the complex because of the masonry walls with tiled roofs, and the two-story Classical façade with symmetrical openings

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118 Pedro Celestino del Pandal, Don Francisco Valdés Rodríguez, Don César de Llanos and don Francisco Delfín Casanova, “Sobre ingenios de Don Domingo Aldama, en la provincia de Matanzas”, 1875, ANC, Fondo Escribanía de Portocarrero, 11/1. Translation mine.


120 In every floor plan included in the book *Los Ingenios* (San Martín, La Ponina and Armonía) the infirmary has a portico or frontal gallery and an interior patio. Cantero and Laplante, *Los ingenios*, 181, 199, 223.
and a central monumental arch (see fig. 3.43).

Another impressive structure was the “splendid” infirmary of the ingenio Angerona, “intended for those who are morally infirm, as well as physically,” and described at length by Rev. Abiel Abbot in his Letters Written in the Interior of Cuba. According to Abbot, the length of the building was 126 feet, and the breadth 30, with three stories and a “flight of twenty spacious stone steps” on the front. The first story had six interior rooms “floored with boards, and glazed,” while the second story had “two rooms, the principal for the matron, or grand nurse of the establishment; the other for the apothecary.”

Just like in the barracks, a special location was given to the maximum authority, in this case, the nurse, and the most valuable items, in this case, the medicines. In the basement were located the stocks and places for confinement in case of contagious diseases.

Water Supply in Cuban Sugar Mills

The water supply was a crucial requisite in any sugar mill, not only for the production of sugar, but also for the consumption of every worker on the estate. In the book Los Ingenios, Justo Germán Cantero indicates the existence of wells and dams in several sugar mills, in some cases also appearing in Eduardo Laplante’s lithographs, as in the Tingüaro and El Narciso sugar mills (see figs. 3.13 and 3.14). Alicia García Santana explains that in many sugar

121 Rev. Abiel Abbot, Letters Written in the Interior of Cuba (Boston: Bowles and Dearborn, 1829), 143-144.

122 Of the ingenio Güinia de Soto, Cantero states that a “very capable dam containing the waters of the stream supplies the machines, the purging house, and other dependencies.” Cantero and Laplante, Los ingenios, 136. Of the ingenio Tingüaro, Cantero mentions: “the plantation . . . has two magnificent dams divided by a bridge that serves as a road, and they [the dams] supply the water of the whole sugar mill, through plumbing fed by a pump activated by an ox.” Cantero and Laplante, Los ingenios, 262. Of the San Rafael sugar mill, Cantero mentions it had two wells with pumps that provided water to the entire complex. Cantero and Laplante, Los ingenios, 268. Translation mine.
mills, sugar planters developed clever systems to conduct the waters. Sugar planters usually built dams in nearby rivers, and diverted the water through canals, stored it in cisterns, known as *aljibes*, and supplied the whole complex through strategically positioned wells, in the batey, near the main house, or in the middle of the barracks’ interior courtyard. Cisterns and wells are still standing today in the ruins of Angerona in Artemisa, and San Luis de los Destiladeros in Trinidad (see figs. 3.44 and 3.45).

In the documents and floor plans of the sugar mills of Domingo Aldama in Matanzas, Pedro Celestino del Pandal includes, for each of them, drawings and description of the water tanks and water pumps. In the case of the Santo Domingo sugar mill, the conduction and distribution of water is drawn in the floor plans (see figs. 3.46 – 3.48) and described in the document “Sobre ingenios de Don Domingo Aldama, en la provincia de Matanzas” (On sugar mills of Don Domingo Aldama in the province of Matanzas):

Two water pumps, K and J, supply the water for the batey. The first one of San Andrés is located on the bank of the river of the same name, and the other in one of this river’s affluent at the west of the batey. These waters are conducted through iron piping to an iron tank H located on top of a masonry platform elevated to the height necessary for its distribution.

The water pump of San Andrés is located in a specially designed house with a small room and a series of stone pillars supporting framework of pinewood and zinc in the form of a pavilion. The water pump J is located in a rectangular house with a similar construction to the other one. The motor used to elevate the water consists of a small steam engine.

From water tank H a pipe conducts the water to the mill house, the boiling house, the purging house, and the gas plant.

The structures housing water pumps were simple sheds without any exterior walls, but


with rectangular pillars supporting wooden roofs covered with zinc or tiles. However, the works of engineering destined to extract, conduct, distribute, and store the water were true marvels of the epoch. In some cases, ponds or natural pools were built for the exclusive use of the owner, located near the casa de vivienda, as in the cases of the Gómez sugar mill in Matanzas (see fig. 3.49) and San Isidro de los Destiladeros in Trinidad (see fig. 3.45, d-e).

### The Nurseries or Houses of Criollitos

According to Franklin Knight, another innovation of plantation architecture in Cuba, besides the inclusion of infirmaries, was the addition of a nursery for small children. Manuel Moreno Friginals argues that the increase in the price of the slaves spurred a new interest in the survival of the *criollitos*, as the slaves’ offspring were called. Creole planters started to encourage reproduction and to consider the slaves’ offspring as a profitable investment. Nurseries became an important building in every Cuban sugar mill after 1820, as part of the policy of “good treatment.” Article 9 of the 1842 Slave Laws established as a responsibility of the owner "the building of a house or special room where the sons of slaves (*criollitos*) could be watched by old slaves (*criadoras* or *criolleras*) while their mothers worked."¹²⁵ A mother was supposed to go back to work forty-five days after giving birth, and the offspring was given to the *criollera* who supervised the nursery.¹²⁶

Even though it could be expected that, isolated from their parents, these children would be formed collectively inside these nurseries, nothing of the sort is suggested by the bibliography. On the contrary, according to the travelers’ descriptions, the nursery was simply

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¹²⁶ Knight, *Slave Society in Cuba*, 76.
the place where children were confined while their parents worked.

The nursery is also quite an important place, and is highly amusing to visit, for here the future hopes of the plantation are cared for. These little black, naked sinners, running and tumbling over each other in great glee, are generally kept in a large room, with rows of cradles or cribs on each side, in which each little one is kept at night.127

Nothing [is] more cheerful, than the nursery, a great cage with calados (bars), where black children are enclosed while their parents go to work. The completely naked black devils go around in circles and jump around us asking for a dime.128

Similar to the infirmary, the architectural structure known as house of criollitos, varied widely in dimensions, location and style, depending on the size and population of each sugar mill. Some accounts recall it was just a room within the infirmary, while in other cases they were separate structures, such as in the San Martín and Armonía sugar mills (see figs. 3.20 and 3.22).129 In the ingenio San Martín, the floor plan of the house of criollitos consisted of a series of cells with only one door opening to a central patio, very similar to the floor plans of barracks and infirmaries (see fig. 3.20). The quadrangular or U-shaped floor plan is particularly convenient for achieving elaborate visual control, along with having separate wings for boys and girls, as it was customary in British workhouses.130

In some sugar mills, the nurseries were located near to the house of the owner or the

127 Hazard, Cuba with Pen and Pencil, 293.
128 Ernest Duvergier de Hauranne, “Cuba et les Antilles,” Revue des Deux Mondes (1866), in Pérez de la Riva, La isla de Cuba en el siglo XIX vista por los extranjeros, 175.
129 In the sugar mill Victoria in Colón, for example, Cantero states that the nursery was part of the infirmary, housing around 80 creoles between one and ten years old. In the sugar mill El Progreso, the nursery was allocated in one of the infirmary’s three interior courtyards. Cantero and Laplante, Los ingenios, 275, 280.
130 Cantero mentions a house of criollos as an independent structure in the descriptions of the ingenios Santa Rosa (where it was located in front of the infirmary), Trinidad, El Narciso (with an interior courtyard), and Intrépido. Cantero and Laplante, Los ingenios, 143, 166, 214, 233
house of the administrator, denoting a special attention granted to the caring of the slaves’ offspring. In the case of the San Martín sugar mill, Eduardo Laplante’s floor plan indicates that only a shared wall divided the nursery and the house of the administrator (see fig. 3.20).

Similarly, in the case of La Concepción sugar mill, Celestino del Pandal’s floor plan reveals a close relation between the house of the owner and the nursery, the two building sharing a courtyard, with their frontal porticos connected through a walkway (see fig. 3.50).

**Physical Force and Punishments in the Cuban Sugar Mill**

If the stimulus of being watched, confined, or occupied was not enough, corporal punishment was used to discipline and intimidate slaves. The Slave Code of 1842 sanctioned the more popular forms: flogging, shackles, chains, and imprisonment. Flogging was the most common form of punishment, and it was legally limited to 25 lashes. According to Knight, some estates had a special flogging section called *tumbadero*. Flogging, however, was dealt to the slaves anywhere and everywhere, and the whip became the chief instrument of mayorales and contramayorales to keep the slaves on the job and prevent malingering or falling asleep (see fig. 3.7).\(^{131}\) As Cirilo Villaverde, in his famous novel *Cecilia Valdés*, describes:

> Men and women went back and forth from the mill to the piles of cane, with the arms full of cane or empty, according to each case; everybody always rushing, stimulated by the whip of the *contramayoral*, which did not admit any moment of rest or breather.\(^{132}\)

During crop time, whipping was, by some reports, almost incessantly employed.

The slaves work in gangs and for six hours or so at a time –being kept closely at

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\(^{131}\) Knight, *Slave Society in Cuba*, 74, 77.

their work by the fear of the lash, and by its frequent application.\textsuperscript{133}

Next in popular use in Cuban plantations came the shackles and stocks (\textit{grillete} and \textit{cepo}), which adopted many forms and styles. Shackles varied from simple chains and padlocks attached to the ankles or wrists and fastened around the neck to the types that were attached to a large log, which the slave had to lift whenever he desired to move from one place to another (see figs. 3.51 and 3.54).\textsuperscript{134} The most common form of stocks (\textit{cepo}) consisted of an enormous, fixed board with holes through which fit the head, hands, and feet of the delinquent slaves, either separately or in any combination. The multiple orifices allowed the simultaneous use with several slaves, who were sometimes left in the open in a number of uncomfortable positions, suffering from the weather as well as from the many varieties of insects. With their heads and hands immobilized, and in a lying down position, slaves were also subjected to extensive lashing and whippings (see figs. 3.55 - 3.57). In 1838 Richard R. Madden visited St. Anne estate, located in Bejucal, six leagues from Havana, which belonged to Don Francisco de la Luz, and said,

\begin{quote}
We saw here one man in the stocks, his head was in a broken piece of pottery — the stocks are in the boiling house; there was another man going about heavily laden with chains.\textsuperscript{135}
\end{quote}

Imprisonment was the third most common form of punishment, and it was usually combined and aggravated with the \textit{cepo} (stocks), constituting the extreme of spatial confinement, in which movement was harshly restricted. According to James Delle, the mere

\begin{itemize}
\item \textsuperscript{134} Knight, \textit{Slave Society in Cuba}, 77.
\item \textsuperscript{135} Madden, \textit{The Island of Cuba}, 165.
\end{itemize}
presence of such a space "served to intimidate and thus discipline the population, by the threat of restricting movement by having one's hands and/or feet confined in the apparatus, and being locked in what essentially was a stone dungeon."\(^{136}\) (see figs. 3.56 and 3.57). A special room destined for this purpose (like a cell) was reserved, either in the slave barracks or in the infirmary, preferably in a basement (see fig. 3.19).

In the Angerona sugar mill, the stocks were located in the infirmary, and in his *Letters Written in the Interior of Cuba*, Abiel Abbot recalls,

> At each end of the infirmary, therefore, in the basement story, is an apartment called the stocks, the one for male criminals, and the other for female. They are spacious arched rooms, and well ventilated with spiracles. The stocks are formed by two thick planks, with holes large enough to admit the small of the leg, cut half in the upper plank and half in the lower, and made fast together at the ends. Attached to this contrivance for securing legs, which extends across the apartment, is a bed and bedding, and pillows, that offenders may lie without needless pain, and think over their cases. In the basement also is another large and spacious room, occupied as a store-room, but which, in case of insurrection, is intended as a place of confinement. Smaller rooms in the basement are prepared to receive persons with contagious diseases, as leprosy, etc.\(^{137}\)

In the book *Autobiography of a Slave*, Juan Francisco Manzano relates his own experience as a slave in the plantation of El Molino, when he was left in the stocks:

> I was sent to the stocks. If it still exists in that place, which was once an infirmary for men, about fifty beds would fit on each side. Here is where the sick on the plantation were received, along with those from the San Miguel sugar mill. At that time it was empty and not functioning as an infirmary. That is where the stocks were, and only some cadavers were stored there until it was time to carry them to the town to be buried. There, forced to remain standing, frozen by the cold and with nothing to cover me, I was locked up. I was scarcely alone in that place when it seemed that all the dead were rising and wandering up and down the length of that room.\(^{138}\)


\(^{137}\) Abbot, *Letters Written in the Interior of Cuba*, 143.

The description of Richard Henry Dana of the ingenio La Ariadne near Matanzas suggests that some sugar mills had an independent structure destined for confinement and punishment, which he calls a “penitentiary.” He relates,

Near the negro quarters, is a penitentiary, which is of stone, with three cells for solitary confinement, each dark but well ventilated. Confinement in these, on bread and water, is the extreme punishment that has been found necessary for the last three years. The negro fears solitude and darkness, and covets his food, fire, and companionship.\footnote{The ingenio La Ariadne was formerly a cafetal, named El Laberinto (The Labyrinth) and belonged to Mr. C____, a former French planter in Saint Domingue. Henry Dana, \textit{To Cuba and Back: A Vacation Voyage}, 136.}

Lastly, the ultimate punishment was the death penalty, which was not sanctioned by the slave laws, and was not recognized “legal.” However, in his book, Ortiz states:

When it was necessary to condemn a slave to the death penalty, it was executed on the \textit{batey} of the sugar mill, in front of all the slaves, who were set up for the purpose. The deathly mechanism was the \textit{garrote}, a simple machine . . . which did not have the improvements of the official garrote, the one used for convicts in Spain and Cuba.\footnote{Ortiz, \textit{Hampa afro-cubana: Los negros esclavos}, 262. Translation mine.} (see fig. 3.58)

The use of the batey to fulfill a death penalty parallels the Spanish authorities' use of the main plaza (or \textit{Plaza de Armas}) for public executions, meant to stage the power of the conqueror over the conquered, publicly and bluntly.

\section*{Conclusion}

Cuban sugar mill architecture was shaped by a dichotomy. Cuban planters dealt with the need to preserve their property (slaves), caring for their health and well being, and the need to subject them to avoid the imminent threat of a slave rebellion. The jail-like system of the barracks, where slaves were confined, punished, and constantly observed, contrasts sharply
with the architecture of nurseries and infirmaries, meant to care for the slaves and their offspring. However, the architecture of these structures shared more similarities than discrepancies, and they were all conceived, just as the general layout, to permit full visibility and constant surveillance. In this case, visibility was achieved by a centralized floor plan, with an open courtyard and a high point of observation. The floor plans were also intended to implement confinement, isolation, and segregation through the inclusion of the restricted entrance, the system of cells or rooms (all opening to the interior patio), and the separate wings for different sexes and races (or different illnesses). In addition, in most of them, a second floor functioned as a surveillance point for the maximum authority: the overseer or mayoral (in the barracks) or the nurse (in the infirmary). Barracks, infirmaries, and nurseries also had in common the attention to the façade, embellished through monumental portadas or arched porticos, always with clear reminiscences of Spanish classicism.¹⁴¹

The characteristics that defined the powerful socio-economic group of Cuban Creoles analyzed in chapter one, pervaded the architecture of their complexes, which was modeled in a middle way between the Spanish heritage, the Neoclassical and Enlightened spirit, the fascination for modern industry, and the requirements of a labor force based on slavery. The Creoles’ fascination with the industrialized world modeled a system of production based on the clockwork regulation of space and time, in which a preponderant bell tower commanded the strict routine and a centralized layout favored the economy of time. The Creole’s practical and modern spirit encouraged values of order, geometry and hygiene throughout the place, taking into account functional details such as the inclusion of latrines and wells and the use of interior courtyards and frontal galleries as a means to obtain well-ventilated and naturally illuminated

¹⁴¹ See chapter one, “Chimneys, Towers, and Portadas: Monumental and Vertical Icons.”
interiors. In addition, the architecture was thought to achieve visibility and surveillance, a new system of disciplinary power based on modern thought. The Creole’s enlightened spirit in part awakened the economic pragmatism to care for the slaves and encourage reproduction, introducing infirmaries and nurseries, well designed and kept. Lastly, the Creoles’ Spanish ties, their shared collective memory and inherited values surface, not only in the adoption of monumental and Classically austere façades, but also in the lessons of a traditional system of power in which, just as with the early conquerors, a mass was subjected by the few through fear and punishment, and through the ultimate resource of ritualized executions.
CHAPTER FOUR

THE ROAD TOWARD CUBAN VERNACULAR ARCHITECTURE:
CASAS DE VIVIENDA AND BOHÍOS

One of the most effective methods used by Creole planters to establish a clear social and racial hierarchy within the sugar mill complex was the architectural distinction of the living spaces, through location, dimension, materials, and styles. A great abyss was established between the living quarters of planters, built with sturdy materials and monumental, arcaded porticos, and those of the slaves, made of perishable materials. However, in both cases, the architecture resulted from the complex adaptation of traditional models to the particular geographic, social and cultural context of the Cuban countryside and the new requirements of the sugar planters and the daily life of the slaves. This chapter focuses on the architecture of bohío and casa de vivienda, analyzing how their architecture rescued traditional models — Spanish colonial urban palaces and indigenous Taíno houses — while adapting them to the climate, the natural landscape and the available materials.

The term “vernacular” is used to define an architecture made by people without any training in design, using local materials, and responding to the local environment, culture, and traditions. In Cuba, the bohío, a descendant of native Taíno house, made with autochthonous materials such as palms and thatched roofs, may be considered the vernacular structure par excellence. However, in Cuban sugar mills, the casa de vivienda also responded to the local environment, integrating in its form and architectural features centuries of tradition and heritage.

Even though Creoles envisioned and planned the complexes, the final outcome owes much to its builders, and especially to the interventions of Cuban artisans and craftsmen, and
their contributions of ancestral crafts and decorative traditions.¹ In Cuba, most of the artisans and craftspeople were mulatos (men of African descent), who were taught by local artists or European practitioners resident in Cuba, and became their apprentices.² They were heirs to an immemorial tradition passed down from generation to generation, indifferent to the concerns of official architecture and aesthetic canons. Their contribution can be regarded as “traditional architecture” and their role was decisive in the development of the architectural language of the Cuban sugar mill. The contributions of African slaves are also relevant, since they were in charge of building their bohíos during the holidays.

The sugar mills’ main houses are, in most cases, the best-conserved buildings on the sites, sometimes the only structures standing today at all. Since they constituted one of the most solid constructions of the complex, made of durable materials like bricks and stones, they better resisted the effects of time and intentional fires (especially those produced by the Cuban independence army in the late 1890s). Furthermore, due to the domestic function, they were used longer, and are sometimes even inhabited nowadays. The houses of La Pastora, Las Cañas and Delicias, for example, are still inhabited, although under extremely precarious and dangerous conditions.³

¹ The construction workers (masones) were usually slaves from the plantations, taught by another maestro de obras or (stonemason) brought from the capital or a nearby village, who worked from plans and designs made by the owners or some passing architect or engineer, or sometimes even without any plan at all. Francisco Pérez de la Riva, La habitación rural en Cuba (Havana: Editorial Lex, 1952), 82.

² According to María Luisa Lobo Montalvo, most of the non-European craftspeople were of African descent, because “whites nursed a lamentable contempt for any trade they considered demeaning.” María Luisa Lobo Montalvo, Havana: History and Architecture of a Romantic City (New York: Monacelli Press, 2000), 77.

³ A family inhabits the house of La Pastora in Trinidad; they live on one side of the house, since the roof has collapsed on the other. The still-standing roof is in a very precarious condition. Several families still live in the house of Las Cañas sugar mill in Matanzas, where the roof of the gallery is also
As part of my investigation I was able to visit eleven casas de viviendas. Of these, only two of them have been restored (Guáimaro and Manaca Iznaga in Trinidad) and one of them is being rebuilt at the present time (San Isidro de los Destiladeros in Trinidad). In addition, the Angerona, Triunvirato and Taoro plantation sites have been preserved and are currently open to the public. Unfortunately, the rest of them are completely abandoned and in ruins. In the cases of bohíos, the absence of standing structures today renders their study difficult. Only one instance of sugar mill bohío is still standing today: the Manaca Iznaga village in Trinidad, although it has been completely transformed by subsequent inhabitants. Thus, for the study of bohíos I will rely mostly on traveler accounts and literary sources of the epoch that described the villages and houses, as they were during the first half of the nineteenth century.

**The Casa de Vivienda: A Token of Identity for Creole Owners**

Cuban sugar planters who did not live permanently on their plantations had elegant *palacios* (palaces) in the cities and travelled to their country houses on weekends and holidays. Despite the distances and the hardships of the travel at that time, the main and most wealthy families of Havana travelled many miles in *volantas* through bad roads, with only the purpose of spending a week or two in their casas de vivienda, accommodating guests and friends with great luxury and grandeur, and hosting great fiestas for Holy Week, Corpus Christi, the feasts collapsing, and the residents have added wooden posts to support it. The hacienda Delicias in Trinidad is currently in ruins, but a homeless man lives in two of the rooms (the only ones with a roof). This was the situation in January 2014.

4 Angerona in Artemisa province; Taoro in Havana province; Armonía, Triunvirato and Las Cañas in Matanzas province; Guáimaro, San Isidro de los Destiladeros, La Pastora, Delicias, Buena Vista and Manaca Iznaga in Trinidad province.
of the Altars of the Cross, and the beginning of the harvest (zafrá). Planters who lived in their haciendas all year also welcomed, in their forced isolation, many visitors and friends who often became a “suitable excuse to organize the social reunions of which the planter class was so fond.”

Travelers and writers constantly praised the hospitality of Cuban hacendados, and by the nineteenth century a trip to a sugar mill was a necessary excursion for any foreigner visiting Cuba. William Drysdale, who visited the Hormiguero sugar mill in the nineteenth century, wrote:

A visit to a sugar plantation is one of the best parts of coming to Cuba, and no Northern visitor should come here without seeing one. The difficulties in the way of it, once you are here, are not so great as they seem, for the Cuban sugar planters are the most hospitable people in the world, and an introduction to some one of them is not hard to obtain . . . . There seemed to be no flaws in a neat little excursion like that: an early morning ride by rail twenty miles into the

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5 Pérez de la Riva, La habitación rural en Cuba, 90-91, 93-95; Rachel Carley, Cuba, 400 Years of Architectural Heritage (New York: Whitney Library of Design, 1997), 84. The owners of sugar mills in Matanzas had beautiful palaces in Havana. Nevertheless, in the interior of the country, sugar planters built urban palaces in the provinces and had their sugar mills in the valleys of the outskirts. In the case of Trinidad, the Count of Brunet and the Borrel, Bequer and Iznaga families had their urban palaces located in the town’s main plaza, in addition to the beautiful country residences in their sugar mills. This constant passage between city and countryside helped strengthen the link between the plantations and the sugar capitals, which was manifested in the architecture of the main house being a “rural” version of the urban palaces.


7 Ely, Cuando reinaba su majestad el azúcar, 690. Antonio Gallenga, for example, describes his visit to the sugar mills of Don Julián de Zulueta and Don Juan Poey. “These gentlemen did not call upon me in person, but sent their ambassadors . . . with many apologies for their inevitable absence, the most liberal tender of their services, and an especial invitation to visit their country estates. I did not suffer many days to pass before I availed myself of their kind offers, and, according to the Spanish phrase, went to the ‘houses which from the moment I honoured them with my presence became my own.’” Gallenga narrates that Don Julián de Zulueta waited for him at the Perico station, with two volantias “A drive of less than an hour brought us to the Batey —the central establishment of the Ingenio, or sugar estate of España.” At the door of the master’s dwelling house, Gallenga says, “the volantas pulled up; and where on alighting a very large tumbler of bul, or bowl, a refreshing beverage of which beer and lemonade are the main ingredients, was handed to us.” Antonio C.N. Gallenga, The Pearl of the Antilles (1873; repr., New York: Negro Universities Press, 1970), 92-93.
interior of the island, then a volant ride, a day on the plantation, and home again by dark . . . . The plantation to which we were kindly invited was the one known as the ‘Hormiguero,’ owned by Messrs. E. & L. Ponvert, at Palmira, about twenty miles from Cienfuegos . . . . Here they lived throughout the ‘grinding season,’ from December to April, every year, sometimes spending the remainder of the year in New York or Paris . . . . Both gentlemen having families, there is plenty of company in the large house, and they do not suffer from the lonesomeness of the situation — for a sugar plantation is necessarily isolated, and its owners are compelled to rely upon their own resources for amusement.⁸

Regarding the visitors’ daily schedule during their visit to a Cuban sugar mill, Peter V. King left a detailed account of his stay in the Constancia sugar mill in 1865, writing:

Our course of action is the same every day. We wake up at five, and after the coffee with some pastries we make a horseback inspection of around five to six miles around different sites of the hacienda, stopping sometimes even for 15 minutes to hear Eduardo’s explanation about the vines, the flowers or the trees, or about the reasons to plant certain types of cane in certain terrains . . . On our return home, when it is too hot outside, the conversation turns to an author whose book they get out of five great cabinets which constitute the only furniture, besides the dining table, in this room of 11 by 9 yards where we sat. We read a page or two and the conversation continues until five in the afternoon, when the horses are ready again to visit other parts of this vast plantation . . . . On our return home we barely have time for a moderate use of water and towel, when they announce that the dinner is ready, around six thirty. Almost every night, when we stay late at the table, the midnight bell reminds us to sleep, when it sounds in the sugar house, wakes up the slaves whose work had finished at one o’clock, to relieve those who have been working. In this way, each day has brought me a different part of the hacienda, but in all of them I enjoyed the company of this wonderful family.⁹

A very similar account, is given by Samuel Hazard, when describing his stay in the ingenio Asunción, near the town of Guanajay:

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⁹ Letter of Peter V. King (Hacienda Constancia) to Percy R. Pyne (New York), April 11, 1865, Archivo del Central Constancia, Las Villas, Cuba, quoted in Ely, *Cuando reinaba su majestad el azúcar*, 740-741. Translation mine.
Our daily life upon this estate was as follows: About six o’clock in the morning the servants entered our bed-room with coffee, whereupon we arose and dressed ourselves. We then strolled around the grounds until our horses were saddled, when, in the delicious morning air, we galloped down to the sea-shore, and in some quiet cove or sheltering bay took our morning bath in the foaming, dashing and invigorating surf.

Mounting our horses after our bath . . . [we] took our way by varying routes . . . stopping once in a while at some neighboring mill for a chat with the engineer, or possibly at a rural bohio, to study negro character. Reaching our homes with fine appetite, we proceeded to make our toilets for the day, and were then ready for breakfast, which is usually served between ten and eleven o’clock, and occupies some two hours . . . .

Breakfast over, and our cigar disposed of, we sought some cool spot about the house, and lazily reclining in the comfortable chairs found in every dwelling, slipped off, in spite of ourselves into a siesta . . . . This finished, we took a stroll through the mill, tried a game of billiards, enjoyed the more quiet pleasure of a book, or found a more agreeable occupation in conversing with the ladies . . . . The afternoons, before dinner, we generally devoted to a ride on horseback . . . . Night found us home again to dinner; after which, we gathered together upon the piazzza [gallery] to enjoy the evening breeze and our fragrant Havanas with the pleasure of conversation. A game of cards in the evening, or a stroll through the mill to inhale the fragrant odor of the boiling sugar, or watch the hands as they piled the cane into the crusher, served to pass the hours pleasantly till bedtime. 10

Similar trips to sugar mills with analogous daily schedules are related by numerous traveler writers visiting Cuba in the nineteenth century. They all praised the intelligence, practicality, and entrepreneurship of Cuban planters, the awe-inspiring machines and structures of the sugar mills, and above all, the “pleasant hours” they spent at the casa de vivienda.

Traveler writers constantly complimented the rituals of meals in the Cuban sugar haciendas, which were usually enjoyed in the open gallery at the back of the house with beautiful garden views and attended by numerous servants. In contrast, the after meal or siesta was enjoyed in the frontal gallery, where visitors had a view of the batey and the factories, admiring the powerful machines and the frantic, but structured, activity. Travelers also mention the

afternoons or early evenings spent in the galleries or in the sala (living room), reading a good book from the planter’s library.

The Cuban sugar planter’s international allure and hospitality were responsible for the numerous visits of travelers to the sugar mills. It was their opportunity, not only to showcase their technological prowess, but also the enchantments of life in the Cuban countryside, the Cuban cuisine, the tropical climate, the wonderful landscape, and the little entertainments of Cuban culture: the billiard and card games, the horse rides, the siesta, the cigars, etc. Thus, their identity as a group relied not only on their industrial feat but also in their common way of life, their shared habits and domestic rituals. I consider this is the reason why the sugar mill’s casas de vivienda are not luxurious palaces, but rather practical, vernacular responses to the landscape and the climate that preserved traditional customs and spaces deeply rooted in the planters’ way of life.

The Casa de Vivienda’s Response to the Landscape:

From the Patio to the Gallery House

“In the city or in the countryside,” said Roland Ely in his book Cuando reinaba su majestad el azúcar; “the house of the planter portrayed his personality, his culture and taste.” The roots of the sugar planter’s house can be found in a domestic tradition that goes back to the early years of the conquest, in the colonial houses built in the city of Havana and the model known as a “patio house.” This tradition was transformed to better adapt to the landscape of the

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11 Ely, Cuando reinaba su majestad el azúcar, 706. Translation mine.
countryside, giving birth to the “gallery house.” These two types can be considered the most common designs implemented by Cuban planters in their sugar mill houses. During the course of this investigation, I have determined that the patio house was usually the norm in the sugar mills of Matanzas, while the gallery house was predominant in the province of Trinidad.

In the 1860s, the American writer and artist, Samuel Hazard, after visiting many sugar mills throughout the island, described what he considered the common “type” for the Cuban sugar mill main houses. In his description he states:

The country-houses of Cuba are, as a general thing, on the sugar estates, very large and roomy mansions, built of stone, floored with tiles of either clay or marble, according to the wealth or tastes of the owners; the doors and windows are immense, and the latter entirely without glass. The houses have generally piazzas front and back, which are very spacious, and frequently used as dining and sitting rooms. These houses are rarely more than one story high, built with the closest eye to a certain kind of lazy comfort and coolness; they have a large hall or room from which open on each side one or two suites of rooms, used by the family as bed-chambers and sitting-rooms. Beyond the hall there is, perhaps, a dining-room or the aforementioned piazza, curtained or closed in by blinds, and looking out upon one side of the court-yard, or patio; on each side of this extends back a wing, used on one side for offices, servant’s quarters, etc., and, perhaps, on the other for stables; —the whole with a wall at the other side, forming an enclosed quadrangle, in which horses are fed, negro children play, and servants chatter. This court-yard is varied in some of the more tasteful ingenios by beautiful gardens, laid out with orange, lemon, pomegranate, and other fruit trees, while the Jessamine and heliotropes and other bushes add fragrance and beauty to the scene.

Hazard’s description resembles the “patio house,” the first schema of domestic architecture developed in Havana from the sixteenth century with a strong Mudéjar influence, in which the house turns inward, organizing all the spaces around a small rectangular central

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12 In the gallery house, the interior patio disappears, and the house opens up to the landscape through surrounding galleries.


14 “The enclosed open-air patio was directly derivative of medieval Arabic tradition of a private inner court where women were cloistered and most domestic activities occurred.” Carley, *Cuba*, 75.
patio with arched galleries along the shorter sides. This model, meant for urban contexts in which houses shared a common bearing wall, was implemented by early Spanish settlers because it perfectly fitted the tropical climate of the Caribbean, with the interior courtyard permitting the entrance of light and cool drafts into the house. The interior courtyard constitutes the hallmark of early colonial domestic architecture in Cuba, and it is characteristic of every seventeenth-and eighteenth-century palacio in the center of Havana. Although in the countryside the interior patio was no longer needed to ventilate the house, many Cuban sugar planters, especially in Matanzas, adopted the model, reproducing the same floor plan that characterized their city palaces, thus preserving an enduring tradition of domestic life and rituals.

The Triunvirato sugar mill’s main house in Matanzas exemplifies every detail described by Hazard and resembles colonial houses from Havana in its interior configuration (see fig. 4.1). The same model of a “patio house” is also characteristic of the ingenios Armonía and Santa Rosa, both in Matanzas, their floor plans drawn by Eduardo Laplante and Pedro Celestino del Pandal respectively (see figs. 4.3 and 4.4). Both floor plans reveal a portico on the front, an interior courtyard, and a posterior wing housing the service areas (a stable is indicated in the Armonía house and a kitchen in the Santa Rosa). They also shared similar spatial configurations, with a hierarchy of rooms that moved from public and formal to casual and private. Following Hazard’s description, at the front there is a rectangular bay with the sala — flanked by one or two smaller rooms— that leads to the gallery opening into the patio. Two laterals wings extend on each side of the patio with rooms for offices, servant’s quarters, etc., being closed at the end by the posterior wing (see figs. 4.3 and 4.4).

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15 Lobo Montalvo, Havana, 62.
Beautiful arcades resembling the ones of city palaces sometimes surrounded the interior courtyard such as in the Conchita casa de vivienda (see figs. 4.5). On other occasions, the galleries around the interior patio were roofed with monopitched lean-to-roofs supported by wooden posts, as in the cases of San Rafael and Triunvirato sugar mills (see fig. 4.6).

To better adapt to the new context, a transformation of this schema is noticeable in those houses with an L-shaped floor plan, in which the interior courtyard disappears, the rectangular core only having one perpendicular bay (instead of two) housing the service areas. This schema characterizes houses like those of the ingenios La Ponina in Matanzas and Güinía de Soto in Trinidad (see figs. 4.7 and 4.8), and it seems like a middle point between the patio house and the gallery house.16

The most common floor plan found in the majority of houses surveyed for this investigation (see Appendices 4 and 5), but particularly recurring in the province of Trinidad, is the “gallery house.” It has the rectangular core described by Hazard, but disregards the lateral wings and fully opens to the outside through ample galleries in front and back. With small variations, this is the spatial distribution found in the 11 houses surveyed by UNESCO in the Trinidad's Valley of the sugar mills (see Appendix 5).17 Similar to Hazard’ description, the interior layout of these houses consists of a rectangular and symmetrical core with two parallel


bays: the first contains the *saleta* (living room) in the center, flanked on both sides by one or two smaller rooms (often functioning as offices or bedrooms), and the second bay containing the dining room in the center, with one or two more spacious bedrooms on both sides (see figs. 4.9, 4.11 and 4.13).18 The first bay usually has a four-pitched wooden roof, and the second bay has a monopitched lean-to roof. Two spacious galleries are located on the front and on the back, the frontal one having an arcade and flat roof, and the posterior one with a monopitched lean-to roof supported on wooden posts (see figs. 4.12 and 4.14). In this schema, the kitchen was never under the same roof of the house but in a separate structure in the patio.19

As in patio houses, the hierarchy of rooms moves from casual to private. At the front, the portico is the most elegant and most public part of the house, usually accessed through a ceremonial staircase. A monumental central door marked the access to the house, while a lateral door opened up to the offices of the administrator or owner. Furthermore, due to the house’s strategic location, this portico usually constituted the perfect spot to overlook and supervise the production center and the entire batey (see figs. 4.10, 1.17 and 1.18). After entering the house, the sala constituted an elegant and formal space, used to receive visitors and to showcase furniture and mural paintings. The sala also held the library of the house, a piano, and sewing boxes, and it was the place for formal social gatherings. A monumental mixtilinear...

18 Of the 8 sugar mills’ main houses surveyed in the architectural guide of Trinidad (*Trinidad y el Valle de los Ingenios*) and García Santana’s *Trinidad de Cuba*, 7 of them have the same floor plan configuration, the only exception being the Buena Vista hacienda. La Pastora and Guinía de Soto casas de viviendas have the identical main rectangle, but with an additional lateral wing. See López Bastida et al., *Trinidad y el Valle de los Ingenios* and García Santana, *Trinidad de Cuba*: Ciudad, plazas, casas y valle. According to Laplante’s depictions, main houses with a rectangular or cuadrangular floor plan include the Ácana, La Ponina, Purísima Concepción (a) Echeverría, Intrépido, Buena Vista, Manaca Iznaga, Amistad, Flor de Cuba, San Rafael and San Martín sugar mills. See Appendices 4 and 5.

19 The location of the kitchen is confirmed in many documents. Like in old times in the city, it consisted of a rectangular structure usually measuring 5 to 6 *varas* and covered by an independent monopitched lean-to-roof. García Santana, *Trinidad de Cuba*: Ciudad, plazas, casas y valle, 240.
arch communicated the sala with the dining room, which constituted a more open space (see figs. 4.59 - 4.60).20

The back gallery was the social space par excellence, used for leisure, to rest, chat, sew, or just enjoy the scenery. In some cases, the back gallery served also as the dining room (see fig. 4.53). While frontal galleries provided panoramic views of the batey and factories, the rear gallery offered a direct communion with nature through a well-kept garden usually filled with exotic plants, sculptures, and fountains (see fig. 1.17, 1.46 and 4.15 – 4.16). Describing the house of Las Cañas sugar mill (see fig. 4.28) in Matanzas, Ernest Duvergier de Hauranne emphasizes the breezes and the natural beauties enjoyed from these rear galleries:

The other façade of the house fronts a nest of flowers and greenness. A two story wing, and of a more European construction, separates the garden from the noise and movement of the estate. In here, a small French garden opens up, regularly planted with cactus of long and thorny leaves . . . . There, there is an elegant lounging pavilion, with a beautiful pool big enough to swim in it. Surrounding it, is a small forest of palms, orange, mango and guavas trees, which afford thick shades, and protect this flowered cloister from the exterior. At noon we seat, as a family, around a frugal meal, composed by all the products of the farm, and tasty fruits from the garden; my kind hosts have been able to eliminate any difficulties from our enjoyment. While we eat, in the midst of a pleasant, familiar, and sweet conversation, I look with pleasure to the dark deepness of the enchanted forest. I see the golden oranges, the blond lemons and the red flowers of the pomegranate, shining in the greenish shade of the mango’s dense foliage . . . .

Pedro Celestino del Pandal’s drawings of the general layout of Santa Rosa and Santo Domingo sugar mills, both in Matanzas, also reveal the great extent of these private gardens of the casas de vivienda, which spread out from the rear gallery and were planted with a forest-like, dense vegetation (see figs. 4.15 and 4.16).

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20 Carley, Cuba, 75-77.

The frontal and rear galleries were without doubt the most enjoyable spaces of the sugar mills’ main houses and the most relevant departure from the Spanish colonial urban model. These galleries could be considered the natural transformation of a house that, no longer in the city surrounded by common bearing walls, renounces to the interior patio and opens up to the natural, rural landscape.\textsuperscript{22} The galleries are also more adequate for the humid, hot tropical climate, protecting the interior spaces from the sun and funneling breezes to the inside.

Describing the many uses of galleries and their utility in a tropical climate, William Drysdale recalls, regarding the Hormiguero sugar mill’s main house:

The house, like all Cuban country-houses, is one story high, with a broad, steep, tiled roof, and with the cool front veranda so shaded with green vines that the house can scarcely be seen. Such a dark, cool and airy sitting-room as the veranda thus becomes invaluable in a hot place like the south side of Cuba; even before nine o’clock we began to feel that we were down in latitude 18. With its cool brick floor and its rows of comfortable rocking and easy chairs, it is just such a place as one would want to find in the middle of a hot day to doze away the afternoon in. And that is about all that any one cares to do in Cuba, for the heat in the middle of the day makes it not only uncomfortable but unsafe to be long exposed to the sun. The veranda, in all these southern countries, is the best part of the house. It is the parlor, the library, and the general living-room. Without one, and a good one, a house in a tropical climate would scarcely be habitable.\textsuperscript{23}

The Cuban sugar mill’s main house layout, with its rectangular core partially surrounded by galleries, is actually a Caribbean typology that, according to Jay Edwards in his article "The Origins of Creole Architecture," appeared and developed in the sugar plantations of Hispaniola, Jamaica, Brazil, Louisiana, and Haiti as early as the sixteenth century.\textsuperscript{24} The first

\textsuperscript{22} García Santana, \textit{Trinidad de Cuba: Ciudad, plazas, casas y valle}, 244.

\textsuperscript{23} Drysdale, \textit{In Sunny Lands}, 57.

\textsuperscript{24} Defining the peripheral spaces, Edwards says they are always more narrow than the central areas and they include at least one full-length front gallery or open loggias, functioning both as outdoor rooms and circulating passages. Jay D. Edwards, “The Origins of Creole Architecture,” \textit{Winterthur Portfolio} 29 (Summer – Autumn 1994): 157.
example of a rectangular, symmetrical and tripartite floor plan, somewhat similar to the Cuban interior layout, was adopted by sugar planters of Hispaniola in the first half of the sixteenth century, exemplified by the Engombe Palace and the House of Palavé (see figs. 4.17 and 4.18). The encircling galleries were a second step in this development, and according to Edwards, appeared for the first time in Jamaican and Brazilian sugar plantations in the mid seventeenth century. He argues that the open galleries were certainly non-European, although they had African and Taíno precedents, for whom the frontal galleries constituted the main daytime living spaces (see fig. 4.74). They were also symbols of authority and prestige, and a prominent feature in the houses of African chiefs and kings. Only in Africa, and later in the Caribbean, was the open front gallery employed as a full-time everyday living space. In addition, the rear loggia was also favored in the Caribbean, as an open-air room where meals were served. Edwards argues that the Caribbean development of this floor plan with encircling galleries is not only the result of the mingling of cultural traditions (African, Iberian, Taíno), but also an adequate response to the hot, humid climate of the region. If both the frontal and rear galleries were opened up, the one-room deep interior had abundant cross-ventilation.


26 The connection between sugar plantations and Creole houses with encircling galleries was recorded in Pernambuco, Brazil, in 1637-41 by the artist Franz Post. Edwards, “The Origins of Creole Architecture,” 170.


According to Edwards’ thesis, this rectangular, tripartite Spanish floor plan partially or fully surrounded by galleries, which developed in the New World, was imported from Hispaniola, Jamaica, and Brazil to the French Caribbean (see fig. 4.19), and from there to Louisiana and New Orleans in the eighteenth century (see fig. 4.21). He conjectures that immigrants from Sainte Domingue, who had already adopted the Hispaniola models, brought the Spanish-plan plantation house after 1795. What Edwards calls a “Spanish-plan” plantation house is identical to the Cuban type: a symmetrical tripartite geometry, laid out around a large, nearly square sala with smaller flanking chambers, and a dining room centered behind the salon in the loggia position.

The Casa de Vivienda’s Façades: Wooden Posts and Arcaded Porticos

Despite the similarities among the floor plans of Caribbean plantation houses, the façades and stylistic choices are quite different among the different colonies. While interior layouts normally respond to climate, available materials, and way of life, which were quite similar in the Caribbean, the formal composition had a strong component of the colonizer’s imported trends and styles, which in the region varied widely from English, French or Spanish influences. The formal language of Cuban sugar mill haciendas has no equivalent in other parts of the Caribbean. The Spanish-based arcades, materials, vernacular elements, and decorative

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29 These immigrants had been successful sugar planters in Saint Domingue, and they constructed raised plantation houses in the Creole style along Louisiana's rivers and bayous as late as the 1830s. The largest number of this type of house was built after 1795, at a time when Louisiana experienced its greatest influx of Caribbean immigrants (1791-1808) and its first large-scale production of sugar (just years earlier than the Cuban development). Edwards cites the house of Balthasar Ponfrac Chevalier de Mansan in Chalmette, New Orleans (1750); the design of the planter builder Claude Joseph Villars Dubreuil of Dijon (1740s); the plantation house of Gerard de Villemont in 1766; and Persac's depiction of Hope Estate plantation house. Other examples include Destrehan plantation in St. Charles Parish, and The Pitot house, New Orleans, c. 1800. Edwards, “The Origins of Creole Architecture,” 160, 162, 180.
details granted them a unique and distinctive Cuban flavor.

In the French Caribbean, for example, and especially in Saint-Domingue, the plantation houses were constructed with wooden walls, and very low-pitched roofs covered with shingles or zinc (corrugated steel) (see fig. 4.20).30 In English colonies, on the other hand, especially in the American South, the plantation houses favored a Classical style (of Greek or Italian influence), including Doric or Corinthian columns, friezes, cornices, entablatures, and pediments (see figs. 4.21 and 4.22).31 In Puerto Rico, Carol Jopling states that the sugar mills’ main houses were usually two-story structures (with stores and offices at ground level and a residence above), made of wood with hipped roofs, and an imposing central staircase leading to the second-story (see fig. 4.23).32 The earliest Hispaniola models from the sixteenth century can be considered closer to the Cuban house in terms of the façades’ compositions (see figs. 4.17 and 4.18).

At the beginning of the Cuban sugar industry, the main houses were very simple buildings made of mampuesto walls 33 with tiled hipped roofs. Usually considered the singular


31 An example is the Belle Grove Plantation, belonging to a sugar estate on the Mississippi River and dating to the 1850s. It was a mansion in an elaborate Greek Revival and Italianate style in Parish, Louisiana. John Michael Vlach, The Planter's Prospect: Privilege and Slavery in Plantation Paintings (Chapel Hill: University of North Carolina Press, 2002), 37-39, 93-98, 105.

32 Puerto Rico was the third largest Spanish colony in the Caribbean that also developed an important sugar industry in the eighteenth century. The sugar hacienda La Esperanza from 1861 exemplifies this characteristic layout identified by Carol Jopling. Nevertheless, Jopling identifies, for coffee plantations main houses, a type quite similar to the Cuban sugar hacienda, consisting of a single story (also made of wood) with a "central living area bounded, either front and back, or on all sides by balconies." Carol F. Jopling, Puerto Rican Houses in Sociohistorical Perspective (Knoxville: The University of Tennessee Press, 1988), 29, 30, 32, 117.

33 Usually known as “stone walls,” they were “thick walls, almost half a meter wide of the load-bearing variety, built from a mixture of lime and sand . . . . These walls were filled with a solid mortar
prototype of Cuban vernacular domestic architecture, these houses had the typical layout of two parallel bays, with the frontal portico covered with a monopitched roof supported by wooden posts. Roughly constructed of poles, these houses were indeed humble affairs in regard to material, although they had numerous rooms with various outbuildings. Eduardo Laplante represented several examples of sugar mill houses having a frontal gallery with a monopitched roof with wooden posts, as in the cases of the Amistad, Intrépido, Güinia de Soto, Unión, and Purísima Concepción (a) Echeverría sugar mills (see figs. 4.24 – 4.26, Appendix 4, 8-13). In addition, in the book *El azúcar in Matanzas y sus dueños en La Habana*, Alberto Perret Ballester included seven photographs of haciendas in Matanzas having a frontal gallery supported on wooden posts (see Appendix 4, 1-7). Following the same model and still standing today are the houses of the Montserrate de Algaba sugar mill in Trinidad (see fig. 4.27) and the Las Cañas sugar mill in Matanzas (see fig. 4.28).

Monopitched lean-to roofs (known as *techos de colgadizo*) have always been used in Cuban architecture, especially above spaces exceeding no more than four meters in depth and specifically in second bays, galleries, and wings where they projected over the courtyard or plot. In the Cuban sugar mills, these types of roofs usually covered the rear galleries, as exemplified by the Güaimaro and Manaca Iznaga’s haciendas in Trinidad province (see fig. 4.12 and 4.14). It is also the predominant roof in provincial houses, and it was the rule in the houses of the mayoral and white employees of the sugar mills, as analyzed in chapter one (see

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made up of gravel, ashlar, and small ceramic pieces called ‘royal mix’ . . . . Wall panels were framed, vertically and horizontally by buttresses and horizontal rows of bricks. . . a fine plaster of lime providing the finish to the walls.” López Bastida et al., *Trinidad y el Valle de los Ingenios: Guía de arquitectura*, 258.

34 López Bastida et al., *Trinidad y el Valle de los Ingenios: Guía de arquitectura*, 215.
This modest and unpretentious architecture was the most popular configuration until the beginning of the nineteenth century, when sugar planters remodeled their houses after the consolidation of their fortunes and as part of the transformation of their production complexes. Regarding Trinidad province’s casas de viviendas, Alicia García Santana argues that all of them had galleries with wooden posts until the 1830s, when sugar planters substituted these by squared pillars and semi-circular arches supporting a flat roof with an ample cornice, all built with mampostería or masonry walls (see figs. 4.11 and 4.14.a). One of Cuba's most solid and durable constructive techniques, introduced by the Spaniards in the sixteenth century, masonry walls served to differentiate the planter's house from the rest of the buildings, as I have argued in chapter one. These arcades transformed the appearance of the house, even though little had changed in terms of structure or spatial conception. These arcaded façades were adopted and repeated by most Trinidad planters and are still standing in the ruins of La Pastora, San Isidro de los Destiladeros, Güínía de Soto, San José de la Cruz, Magüía, Delicias, Manaca Iznaga, and Güáimaro sugar mills (see figs 4.29 – 4.31). They also

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35 See chapter one, “Hierarchical Segregation of Domestic Spaces.”

36 See Introduction, “Historical, Social, and Economic Background: The Sugar Revolution in Cuba.”

37 Masonry walls were made out of stone, rubble, and lime-based mortar. This material was also used in the sugar mill factories.

38 According to García Santana, in the beginning most of the sugar mills’ main houses had a simple construction (made of embarrado and guano) with wooden posts galleries. In the case of Trinidad, the houses of the largest sugar mills were transformed during the decades of the 1820s and 1830s, with the introduction of the arched porticos; the houses of the Manaca Iznaga, Güáimaro, and Magua sugar mills were transformed in the decade of 1830. She argues that the introduction of arched porticos was part of the new “modern image” brought by Neoclassicism. García Santana, Trinidad de Cuba: Ciudad, plazas, casas y valle, 240-245.
characterize eight haciendas photographically surveyed by Alberto Perret Ballester in his book and included in Appendix 4, 18-25.

These arcaded porticos have no precedent in Caribbean sugar mills, and even though Cuban architectural historians have postulated that they were a result of the Neoclassical movement in vogue in Cuba by the nineteenth century, I would argue that they were the direct descendant of the Spanish colonial architectural language.\(^{39}\) Linteled porticos rather than arcades, in fact, were the architectural element par excellence brought by the French Neoclassical movement in Cuba. These were incorporated in the new *casas quintas*, Neoclassical urban palaces on the outskirts of Havana, built in the new districts of El Cerro and El Vedado and exemplified by the Quinta del Conde de Santovenia (1832-1841), Quinta de Los Molinos (1830s), Palacio de Aldama (1840-44),\(^{40}\) and Quinta de Doña Luisa Herrera (1846),\(^{41}\) etc. (see figs. 1.11 and 1.12).\(^{42}\) In all of them, the Neoclassical language is inspired by Greek Classicism, based on an horizontal architecture of columns and entablatures, contrary to the Renaissance one incorporated in early sixteenth-century colonial architecture that recuperated Roman arched colonnades.

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\(^{39}\) García Santana, *Trinidad de Cuba: Ciudad, plazas, casas y valle*, 244.

\(^{40}\) It belonged to Domingo Aldama, a wealthy Spanish merchant and landowner. The Venezuelan engineer Manuel Antonio Carrerá drew the original plans, although there is evidence to suggest that the final design was the work of Jules Sagebien, a French architect residing in Matanzas. Lobo Montalvo, *Havana*, 133.

\(^{41}\) It belonged to Domingo Herrera, married to Luisa Herrera y O’Farrill. Lobo Montalvo, *Havana*, 144.

\(^{42}\) The casa *quinta* could be considered the first type of house in which “a rapprochement with nature was sought,” as a “quest for a healthier environment.” House and garden were intrinsically related, as in the sugar mill casa de vivienda, with lush gardens, fountains, statues, and fruit trees. However, contrary to the houses in the sugar mills, the *quintas* still had an inner court with a portico on the front, composed of a long series of linteled columns. Lobo Montalvo, *Havana*, 128-129.
By comparison, the proliferation of arched porticos was an earlier phenomenon introduced in the first half of the eighteenth century by the wealthy Spanish aristocracy, as exemplified by the houses of the marquis of Aguas Claras (1751-1775), the marquis of Arcos (1746), and the count of San Juan Jaruco (1732), all in Havana’s main plazas (figs. 4.32 - 4.34).\(^{43}\) Arcades were the hallmark of all Spanish colonial civic architecture, and they fronted civic buildings in almost every Spanish American main plaza, especially palaces of the viceroy and elite. Arches became to be regarded as symbols of power and imperial dominion, just as the other Classical references implemented by the Spanish conquerors.\(^{44}\) According to Lobo Montalvo, the possession of arcades or covered colonnades, characteristic of the houses of Havana's magnates, "was a token of social prestige." She states that in 1733, Gabriel de Santa Cruz applied for permission from the Crown to build arcades in the main plaza, arguing: “being that I am among the leading personages of this city and that my forebears and myself have faithfully served Your Majesty in all things . . . I beg you to grant me license.”\(^{45}\) Thus, I consider that the inclusion of masonry arched porticos fronting their country houses was a further statement of power and status on the part of the Creole planters, based on the same standards established a century earlier by noble Spaniards in the city. It was also a reassertion of their Spanish lineage and inheritance, a remembrance of earlier domestic traditions.

\(^{43}\) The Casa del Marqués de Arcos belonged to Diego Peñalver-Angulo and Ignacio de Peñalver y Cárdenas; the Casa del Marqués de Aguas Claras belonged to Antonio Ponce de León, first Marquis of Aguas Claras; and the Casa del Conde de San Juan Jaruco belonged to Gabriel de Santa Cruz, father of the future count of Jaruco. In addition, the house of the Count of Casa Lombillo and the Palacio del Segundo Cabo (1770-1772) had arched porticos and were built in the main plazas of Havana in the first decades of the 18th century. Besides the frontal arcades, these houses also shared similar mural paintings, *mediopuntos* fanlights, slatted French shutters, tile ceramics, Spanish-style monumental doors, and “tablero” style windows. Carley, *Cuba*, 104; Lobo Montalvo, *Havana*, 86-92.

\(^{44}\) Carley, *Cuba*, 86, 88, 113; López Bastida et al., *Trinidad y el Valle de los Ingenios*, 36, 113.

\(^{45}\) Lobo Montalvo, *Havana*, 78, 86.
Some arcades had slender columns with a delicate shaft and Doric capitals, similar to the palaces in Havana’s main plaza.\textsuperscript{46} Such are the cases of the Angerona and Armonía haciendas, which followed a more academic incorporation of Classical elements (see fig. 4.37 – 4.38).\textsuperscript{47} In other cases, robust pillars support the arcades of the frontal galleries (see fig. 4.40), sometimes transformed into more ornamented elements, as in the case of the Conchita portico, which has a combination of Doric columns on the sides and a Corinthian pillars on the center (see fig. 4.39). A more vernacular and local interpretation can be found in Trinidad sugar mill houses, where Classical columns are transformed into short squared pillars with chamfered angles and simple but imposing claws and upper moldings. These, along with a large and heavy entablature with only one modest cornice, grant the whole a distinctive appearance (see figs. 4.11 and 4.14-a.). Other Classical motifs, used as exterior decoration by Trinidad planters, were the urns or \textit{copas}, used on top of pilasters to embellish rooftops, such as in La Pastora casa de vivienda (see fig. 4.29-b.).\textsuperscript{48} Just as with the other decorations of Classical origin, the final outcome of the whole has no precedent, and, I assert, constitutes a unique and idiosyncratic Cuban form.

As I argued in chapter one, Cuban sugar planters revived the Spanish heritage and memory in various architectural choices. I have found numerous similarities between the

\textsuperscript{46} In addition, Pérez de la Riva, mentions several haciendas which had “a porch with great columns and marble staircase, with classical capitals and friezes, triglyphs, and metopes,” like those of La Victoria sugar mill and the ingenios of the Count of Diana and the Marquis of Justiz de Santana (today disappeared). La Victoria belonged to an American named Jencks, and the house of the Marquis of Justiz de Santana was usually known as the “Molinos.” According to the author, these houses resembled the Classical style of the plantation houses of the American South. Pérez de la Riva, \textit{La habitación rural en Cuba}, 92.

\textsuperscript{47} Matanzas has been called “the Athens of Cuba” due to its broad implementation of Neoclassicism in town architecture and urban layout.

\textsuperscript{48} Carley, \textit{Cuba}, 70.
Cuban sugar mill's main houses and seventeenth-century Spanish haciendas from the Andalusia region. The horizontality, austerity, and whiteness, along with the inclusion of arcades, balconies, and towers were crucial elements of Andalusia’s agricultural architecture (see fig. 1.43 – 1.45 and 4.41). 49 Similarities among Spanish haciendas and Cuban sugar mill houses are noticeable in Eduardo Laplante’s lithograph of Trinidad sugar mills’ main house, with its symmetrical façades flanked by two towers with balconies (see fig. 1.49), 50 and in San Rafael's main house, with its arched portico, white walls, and monumental tower with crenellations (see fig. 1.48).

The inclusion of towers was a common feature of Cuban haciendas, in which an upstairs corner room, known as cuarto esquinero (corner room), was often added over the side rooms to function as an office. 51 In some cases, only one asymmetrical tower was added, in a way that evokes the Moorish mirador tower, as in the cases of the Segundo and Macías’ casas de vivienda in Matanzas and San José de la Cruz’s casa de vivienda (now disappeared) in Trinidad (see fig. 4.30 and Appendix 4, 4 and 22). Another distinct configuration was granted

49 The Spanish haciendas are characterized by a square plan with one or several internal patios and towers in the corners. They usually have white (mostly closed) exterior walls, characterized by their lack of ornament, which is concentrated in the main entrance, highlighted by a kind of retable, sometimes with elaborate baroque decoration. The house of the administrator is located on the first floor in the wing in front of the main entrance, while the house of the owner, known as the señorío, is located on the second floor. See Antonio Sancho Corbacho, Alvaro Recio Mir, and María Cruz Aguilar García's works on Spanish haciendas, as well as Juan Cantizani Oliva et al., Cortijos, haciendas y lagares: Arquitectura de las grandes explotaciones agrarias de Andalucia of (Seville: Consejería de Obras Públicas y Transportes, Dirección General de Arquitectura y Vivienda, 2006).

50 In the case of Trinidad, the house grows horizontally, maybe with an L- or U-shaped floor plan, with a central patio, and with a symmetrical façade flanked by two towers on the sides (two-stories high), each with balconies. Luis Miguel García Mora and Antonio Santamaria García, "Donde cristaliza la esperanza: Lectura de Los ingenios," preface to the new edition of Los ingenios: Colección de vistas de los principales ingenios de azúcar de la isla de Cuba, by Justo G. Cantero, and Eduardo Laplante (Madrid: Centro Estudios y Experimentación de Obras Públicas, 2005), 76.

51 Lobo Montalvo explores the implementation of the cuarto esquinero in the early houses of Havana. Lobo Montalvo, Havana, 62.
by the addition of two symmetrical towers on both sides of the main portico, as in the cases of the Saratoga and San Cayetano’s main houses in Matanzas or the Magua’s main house in Trinidad (see fig. 4.31 and Appendix 4, 23-24). Eduardo Laplante also depicts three houses having towers in the Trinidad, Flor de Cuba and San Rafael sugar mills (see Appendix 4, 9, 12 and 25).

**Traditional Local Crafts in the Decorative Elements of the Main House**

Similar to the floor plans and arcades adopted by Cuban planters in their sugar mill houses, most of the ornamental elements and decorations stem from a traditional architecture that goes back to the beginnings of the colony in the sixteenth century, and that was the result of the passing of knowledge, designs, and details through generations. The Cuban sugar mill house is therefore a mosaic of influences and details that includes ancient Spanish models of a strong *Mudéjar* influence, as well as Baroque decorative elements and isolated and re-contextualized Neoclassical motifs and elements. All are intermingled in each individual house, adapted to fit the new geographic, social, and cultural conditions of Cuba.

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52 An exception to the Spanish-style main houses is the casa de vivienda of the Buena Vista sugar mill in Trinidad. This house constitutes a unique case in which an academic Classical language pervades the entire composition, completely replacing the traditional Cuban floor plan with the analogy of a Palladian villa. In this case, the house has a perfectly squared floor plan with a central courtyard (all covered with marble) and a roofless gallery running around the entire house, with low handrails (see Appendix 5, 3). The central courtyard is covered with black and white marble, and it functions more like an atrium for internal circulation. The four, almost identical and richly ornate façades, include Classical decorative details such as pilasters supporting a Classical entablature composed of a flat architrave, a frieze with triglyphs and metopes, and a cornice, all crowned by the roof balustrades. In the frontal and posterior façades, a central entrance with monumental doors is framed by two smaller Corinthian pilasters supporting a lower entablature (with the same cornices and friezes as the giant one). The flat roof of the house contrasts sharply with the dynamism of the tiled, hipped roofs of the traditional Cuban house. García Mora and Santamaría García, "Donde cristaliza la esperanza," 76; García Santana, *Trinidad de Cuba: Ciudad, plazas, casas y valle*, 245-6.

Most of these haciendas’ architectural and decorative elements—including the floor plan schema, the arcaded porticos, the monumental doors and windows, and so on—can be traced back to the earliest sixteenth-century colonial houses of Havana, which had a strong Mudéjar spirit (see figs. 4.32 – 4.36). The Mudéjar tradition of Spain was inherently decorative and relied upon a great heritage of artistry and craftsmanship. It is apparent in the use of such features as decorative clay tiles, wooden balustrades and latticework windows, coffered ceilings known as alfarjes, stained-glass fanlights, among others. From the Baroque period, mixtilinear arches, and protective domes or guardapolvos for the windows were still preserved. However, since most of the houses were remodeled in the 1830s, the Neoclassical trend was incorporated through numerous details such as the Classical mural paintings, iron grilles and the tablero style doors and windows, in a unique local interpretation made by native craftsmen.

In addition to porticos, the main houses of Cuban sugar mills also shared similar doors and windows on their façades. In every house surveyed for this investigation, a centrally located Spanish-style door marked a monumental access to the house. These monumental doors were used from the seventeenth century on and were large enough for a carriage to pass through, imparting a grandiose entrance to the house. Usually crafted by local artisans, added wicket gates were usually fitted into the larger doors to enable entrance on a more human scale, as at La Pastora and San Isidro de los Destiladeros sugar mills in Trinidad (see fig. 4.42). In many cases, the doors in the casas de vivienda follow the tablero style introduced in the eighteenth century and characterized by the rhythmic repetition of 3 to 5 wooden boards, sometimes having ornamental carvings within each geometric shape (see fig. 4.43).

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54 Characterized by the rhythmic repetition of 3 to 5 wooden boards.
The main door is flanked, on both sides, by two or more wooden window also in the tablero style, characteristic of traditional Cuban architecture (see figs. 4.44 – 4.46). In some cases, these openings follow a Baroque design, in which the semi-circular projecting windows are protected by wooden balustrades and crowned by domes. These protective domes, known as guardapolvos, were a Baroque innovation that replaced the traditional rectangular top with a conopial profile. The characteristic wooden balustrades with turned spindles (carved into pear shapes, ribbons, and moldings) served as ventilating windows screens, an element derived from Moorish architecture and transformed by Baroque artisans.55 Protective domes and wooden balustrades can be noted in the Güáimaro and Manaca Iznaga’s haciendas in the province of Trinidad (see figs. 4.47 and 4.48). Continuing with the locally interpreted Baroque elements, the Manaca Iznaga’s casa de vivienda has two pilasters crowned with urns flanking the main door — an ornamental detail very common in the urban houses of the town of Trinidad (see figs. 4.46 and 4.47).

Despite these two Baroque examples, the majority of sugar mill houses present non-projecting windows with rectangular tops, protected by iron grilles, which by the nineteenth century began to replace the traditional wooden rejas (bars).56 With straight, smooth and plain bars and with flat guardapolvos, these designs were incorporated as part of the Neoclassical spirit that rejected the excesses of the Baroque and favored more simple and geometric compositions. This type of window is still noticeable in most Cuban sugar mills haciendas, as

55 López Bastida et. al., Trinidad y el Valle de los Ingenios, 222.

56 Carley, Cuba, 121.
Another Neoclassical addition, probably brought by French immigrants, were the slatted French shutters, usually known as “persianas francesas,” louvered doors and windows made out of wood that filtered light and air and were particularly appropriate for tropical climate. They were often used in the back gallery or dining room, as in the Güáimaro, Manaca Iznaga, Flora and San Rafael’s haciendas (see figs. 4.51 and 4.52). Interior doors and windows usually follow the same pattern as the exterior ones, the prevailing tablero style with framing wooden jambs and pilasters (see fig. 4.43-a.). The detail of the point and square in the corners of the framing jambs are particularly frequent figures, and according to Alicia García Santana, they were a Neoclassical innovation. The main houses of Triunvirato, La Pastora and San Isidro de los Destiladeros’ sugar mills, which preserved the period woodwork of interior doors and windows, still display this characteristic design. Perfectly centralized monumental doors communicated the sala and dining room with the lateral bedrooms. Their perfect alignment granted the interior spaces a distinctive order and symmetry (see fig. 4.53).

In contrast to the stark Neoclassical jambs, the inclusion of stained-glass fanlights set into the round arch of a window or door responded to the Cuban proclivity for color and embellishment. Probably introduced in Cuban domestic architecture in the last third of the 1700s, colored glass mediopuntos, as they were known, were designed to filter the sunlight, and

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57 According to García Santana, iron grilles were also incorporated in San José de la Cruz and Delicias sugar mills. Alicia García Santana, Trinidad de Cuba: Un don del cielo (Guatemala: Ediciones Polimita, 2010), 213.

they first appeared in exterior windows as well as around the interior courtyard, to lighten rooms that opened off to the enclosed patio.⁵⁹ In the sugar mill’s haciendas, stained-glass fanlights are usually found in interior doors, as in the case of the Buena Vista hacienda (see fig. 4.54) or in the arches of the rear gallery or dining room, an additional resource to illuminate this well-used space. Round arches blocked by stained glass were still noticeable in the 1950s in the main houses of the Flora, Triunvirato and Santo Domingo sugar mills in Matanzas (see figs. 4.55 and 4.56). They are still noticeable in the rear galleries of the Güáimaro and Manaca Iznaga sugar mill haciendas in Trinidad (see fig. 4.51).⁶⁰

Upon entering the house in the main social space known as the saleta or sala, three important elements caught the attention of any visitor: the mixtilinear arch, the beautiful wall paintings, and the impressive alfarje (coffered) ceilings. A multi-curved interior arch usually served as division between the sala and the dining room. An island-wide phenomenon, these great lobulated arches were of mudéjar origins, have been found in the haciendas of Magüa, Manaca Iznaga, and Güáimaro sugar mills, communicating the first and second bay and perfectly aligned with the entrance door and the rear doors opening to the posterior gallery (see figs. 4.57 – 4.58).⁶¹ By the nineteenth century, the Neoclassical spirit replaced the lobulated

⁵⁹ Carley, Cuba, 13, 121-122.

⁶⁰ Although the glass was imported from the United States and Spain, the wood-framed vitrales (stained-glass windows) were crafted on the island, and the taste for their intense colors and patterns appears to have been a peculiarly Cuban phenomenon. Carley, Cuba, 121.

⁶¹ According to Alicia García Santana, the conopial arch was introduced by an Andalucía master builder named Cristóbal Troyano (1762-1822), who built the first two Baroque buildings of Trinidad: the churches of San Francisco de Asís and San Francisco de Paula, both inaugurated in 1813. Their “high towers inaugurated a new aesthetic: that of an Andalusia Baroque.” The first documentation of Cristóbal Troyano’s stay in Cuba dates back to 1802, when he was working in a house in Matanzas. From there he went to live in Puerto Príncipe, where he married Mariana de Jesús Acosta in 1807. By 1811 he was working in the churches of Trinidad and by 1818 was appointed main master builder of the town, an appointment he also held in 1821 and 1822. There is evidence of several master builders of the
arches with two semi-circular triumphal arches, more austere and simple, as can be noticed in the casas de vivienda of Angerona, Triunvirato and San Isidro de los Destiladeros sugar mills (see fig. 4.59).

Another feature of the sala is the pitched truss that covered the first bay, which had tie-beams clad in wood and decorated with rosettes, stars and ribbon moldings. These coffered ceilings had also a long tradition in Cuban colonial architecture and come from a Moorish custom of piecing wood in intricate designs, in which star patterns signified the magnitude of the universe (see fig. 4.35-a.). Stars and latticework decorate the tie beams of the Manaca Iznaga and Güáimaro’s living rooms (see fig. 4.60).

But beyond the arches and ceilings, mural decoration was one of the main features distinguishing the casas de viviendas of Trinidad’s sugar mills. According to Rachel Carley, wall painting traced a unique development in Cuba, where it was used widely for domestic buildings and constituted the most significant decorative expression of the late colonial period. Carley argues that by the second half of the eighteenth century, mural painting had become widespread outside of Havana, particularly in towns like Sancti Spíritu and Trinidad, where it “served as a kind of heraldry for the Creole nobility, who often purchased their titles.”


62 Known in Spanish as techo de armadura, con tirante y decorado con tracería (pitched truss with tie-beams clad in wood and decorated with rosettes, stars, and ribbon moldings).

63 “The Moorish custom of piecing wood in intricate designs derives from Arabia, where longer lengths of lumber were scarce.” Carley, Cuba, 15.

64 “To be sure, wall painting was practiced elsewhere in Latin America, but it was limited almost exclusively to church interiors in other colonies (e.g., Mexico and Peru, among others); didactic pictorial compositions depicted religious themes designed to underscore missionary teachings. In Cuba, however, decorative painting was used widely for religious, civic, and domestic buildings alike.” Carley, Cuba, 125, 127.
She states, “The elaborate paintings were certainly an overt expression of wealth and class standing” (see fig. 4.35-b.)

Used primarily in formal salas, painted decoration usually imitates architectural elements, with painted cenefas or wainscot-height bands, going across the rooms and framing arches and openings, and painted curtains bordering the windows (see figs. 4.62 and 4.63). Fundamentally decorative in character, the designs can vary from simple stripes of colors forming parallel lines to more complex compositions that include motifs such as acanthus leaves, arabesques, lyres, flowers and garlands, fruits, and mythological figures. According to García Santana, Neoclassical compositions usually adopt more symmetrical designs, with regular lines, and the repetition of the same geometric ornaments.

Rachel Carley mentions that “many designs appear to have traveled to Cuba via European salon culture and many reflect the excitement over wall paintings discovered in Pompeii and other ancient Roman cities.” Some of the murals were in fact the work of professional European fresco artists, as in the case of the Guáímaro hacienda, painted by the Italian architect and artist Daniel Dall’Aglio, who moved to Cuba in 1838. In this exquisite

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65 Carley, Cuba, 127.

66 Cenefas and wainscot-height bands have also been found in La Pastora and San Isidro de los Destiladeros sugar mill haciendas. The use of decorative cenefas is believed to date to the 1600s, and the practice flourished while Spain was under Bourbon rule in the late 1700s, when designs reflected other European influences. Carley, Cuba, 14.

67 García Santana, Trinidad de Cuba: Un don del cielo, 196, 198.

68 Carley, Cuba, 127.

69 The Italian architect, painter, and stage designer Daniel Dall’Aglio won the competition for the design and construction of the Sauto Theater in Matanzas, and between 1860 and 1863 worked in this Neoclassical building. Dall’Aglio also painted the scenes of the Principal and Tacón theaters in Havana (along with Joaquín Albe). García Santana, Trinidad de Cuba: Un don del cielo, 196.
sala, a Neoclassical cenefá runs throughout the room, while great Romantic-style scenes and landscapes, conceived as paintings superimposed on the wall and framed by Neoclassical motifs, as if they were canvases, decorate the walls. The paintings represent bucolic scenes, pastorals, castles in ruins, or Neoclassical architectural complexes, with a certain air of mystery and fantasy (see figs. 4.61). They are clearly made by the hand of a professional artist, with an almost imperceptible brushstroke, accurate perspectives, *sfumato* technique, and a poetic use of light.

However, most of the time the decorations were carried out by local artisans and painters, imitating Classical motifs but in a simpler style. The mural paintings of the casa de vivienda of the Magüa sugar mill, also in Trinidad and belonging to Justo Germán Cantero, were described by the German Juan Cristóbal Gundlach in 1855, who mentions:

The house is quite big, very beautiful and well painted. A mulatto painter from Trinidad painted it. The living room has, or seems to have a blue background, but this background is almost completely covered with a drawing representing a curtain, with embroidered edges, and hanging here and there from golden olives, tied with colored ribbons. Next to the doors and windows, it seems to be folded in creases, like a mosquito net. During the day, the friezes are another work of art. The inferior one has niches with vases containing different flowers, with an upper strip of liana containing birds and butterflies very well painted according to the books facilitated by Cantero for this purpose . . . . On the interior walls, between the windows, there are paintings that seem to show romantic settings.

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71 The technique used was always the same: tempera applied directly to the lime plaster once it had dried. The colors were obtained from natural, finely ground pigments sometimes darkened by burning. Different soils and shades of ochre, indigo, and metallic powder were dissolved in decanted water to illuminate the murals that had been previously traced with charcoal. A wide variety of substances were used as fixers, from the water decanted from the lime to animal glue, prickly pear mucilage, egg, and casein extracted from milk. López Bastida et al., *Trinidad y el Valle de los Ingenios: Guía de arquitectura*, 269.

Lastly, another important decorative element was the interior floors, which varied according to the use of the particular space, ranging from pressed soil to surfaces clad with clay bricks, tiles of glazed ceramics, or marble and Bremen stone slabs. In the Manaca Iznaga hacienda, for example, clay bricks paved the galleries while pressed soil (known as torta) was used in the interior rooms.

Ceramic tiles were used in Cuba from the sixteenth century onward, following a Mudéjar craft tradition that flourished in southern Spain during the Middle Ages.73 Those with Moorish-inspired patterns became quite popular in the nineteenth century, when they were shipped to Cuba by the thousands from Spanish manufacturers. The more durable colored concrete tiles, called mosaico hidráulico, were also imported from Barcelona, and their colorful patterns were reproduced widely.74 Both varieties were common among sugar mill haciendas, and extraordinary examples were found in La Pastora and Triunvirato casas de vivienda (see figs. 4.64 – 4.65). These tiles are decorated with floral and geometric motifs combined to create beautifully polychrome patterns in floors, borders and wainscots.75

As I have evidenced throughout this chapter, the Cuban sugar mill hacienda can be considered a reinterpretation of colonial palaces of the century before. Almost every “stately house” built in Havana in the second half of the eighteenth century—including the houses of the Count of San Juan Jaruco (1732), the Marquis of Arcos (1746), the Marquis of Aguas

73 Carley, Cuba, 14.

74 “The popularity of colored concrete tile, called mosaico hidráulico, coincided with imports from Spanish manufacturers such as Escofet Tejera & Cia. in Barcelona, whose colorful patterns were reproduced widely throughout the Caribbean. Mosaico hidráulico was particularly prevalent in borders and wainscot accents. Azulejos, enameled ceramic tiles made with oxides and glazes, were another fashionable innovation. This material was imported primarily from Seville.” Carley, Cuba, 123.

75 López Bastida et al., Trinidad y el Valle de los Ingenios: Guía de arquitectura, 270-271.
Claras (1751-1775), and the Palacio del Segundo Cabo (1770-1772)— had frontal arcades, mural interior painting, mediopuntos fanlights, slatted French shutters, and mixtilinear arches (see figs. 4.33 – 4.36), just as in almost every sugar mill casa de vivienda surveyed for this investigation. Even though Lobo Montalvo fails to mention the case of the sugar mills main houses, she acknowledges that the reinterpretations, and in some cases the reproduction, of genuine miniatures of colonial palaces was “a constant trait of Cuban architecture that continued into the Republican era.” She states, “Whatever influences were absorbed thereafter, the building traditions of the early days have unfailingly continued to define the character of the Cuban house.”

Locally Produced Wooden Furniture

The rectangular floor plan of the typical two-bay Cuban hacienda measured 25 to 30 meters long by 18 to 23 meters in depth. The interior had large, spacious rooms of approximate four by five meters. The central spaces, occupied by sala and dining room, had similar depth but twice the length, being up to fifteen meters long. The galleries usually were 4 meters wide, extending all the way up to 30 meters long (see fig. 4.9 and 4.11).

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76 Lobo Montalvo, Havana, 124.

77 However, the presence of marble floor and cast or wrought iron; the introduction of the plain, rectangular paneling of the doors and jambs; the arrival of raking cornices, parapets, and flamboyant chalices of glazed pottery on rooftops; the apparition of ornamental bands and scenic murals painted on the interior walls; and the presence of Classical statues, benches and, flowering plants in the garden, are all Neoclassical additions. Introduced in the nineteenth century, they appeared first in the mansions or quintas on the outskirts of Havana and then in the provinces and countryside (see figs. 1.11 and 1.12). Lobo Montalvo, Havana, 62, 121.

78 Some approximate measures are: Güáimaro hacienda, 30 meters long x 23 meters wide; San Isidro de los Destiladeros hacienda, 25.6 meters long by 17 meters wide; Buena Vista hacienda, 23 meters long by 23 meters wide (plus 3.5 meters of the surrounding gallery); and Triunvirato hacienda, 28 meters long by 52 meters wide.
The basic, elemental design that characterized the floor plan and aesthetic of the Cuban sugar mill’s main house also identified the furniture, which according to most travelers was rustic, simple, and spare. When describing the casa de vivienda of Las Cañas sugar mill, in Matanzas (see fig. 4.28), Ernest Duvergier de Hauranne remarks:

The façade is completely surrounded by a roofed gallery, furnished with several bamboo chairs and sheltered by the prolongation of the house’s roof. The wooden poles and the porcelain pots planted with rare shrubbery and located between the poles are the only exterior adornment of this tropical villa. Upon entering, one encounters a great sala with white walls, roughly covered with lime, with a piano in a corner, a work table, a sewing cabinet, two sofas (of the rejilla type), some armchairs, and a small bookshelf with a prayer book, a dictionary, some volumes of Spanish poetry, and some French novels . . . . These odd and miserly pieces of furniture get lost in the immense sala, which seems sad and disorganized. In this climate, there is no need for European luxury, elegance and comfort; our tapestries, our silk furniture, our curtains and our heavy drapery would be uncomfortable here. The only sought comfort is to have shade, spaciousness and air in abundance . . . . The dining room, located next to the living room, is separated by a large stone wall, but the two areas communicate through a door which is always opened, and through two windows with iron grilles . . . . To the left, the private rooms of the master and mistress of the house are closed by cotton curtains, which the wind shakes and raises. Here it is not necessary to be in heated rooms; tropical men can live in the wind, like the trees in their gardens.79

Many authors repeated a similar description, characterized by spare rooms with sparse and simple furniture. In addition, the public records of Trinidad confirm this view in multiple inventories of the contents of sugar mill properties in the valley. In 1865, for example, the Magüa hacienda (fig. 4.31) was described as having the following:

. . . 7 rocking chairs with 6 in mahogany, 8 mahogany chairs, 39 mahogany stools, two big mirrors with their mahogany and marble tables, 3 mahogany chess tables, 2 mahogany wash basins, a piano in bad shape, a table clock, a mahogany cabinet (or wardrobe), a pine cabinet (or wardrobe), a mahogany chest, two large mahogany tables, a mahogany billiard in bad shape, a

mahogany stone water filter, a small stone water filter; ‘everything old and very used.’

The Cuban art of furniture was enriched by the same mastery of wood manifested in the sugar mill main house’s ceilings, doors, and windows. The use of the island’s native timbers, cedar, ebony, mahogany, rosewood and others, and the creation of “tried and tested objects” of local use, such as rocking chairs and *escaparates* (wardrobes), distinguished Cuban furniture design. Numerous travelers evoked in their accounts the same household pieces: in the galleries, rocking chairs or *mecedoras* (see fig. 4.67); in the salas, *sillón* or *butacas* (chairs with high or reclining backs, with or without arms; fig. 4.66), sofas and *consolas* (tables usually located on the wall, to keep ornaments like chandeliers, fountains, vases, and other decorative objects); in the dining room, the dining table with sometimes up to 30 chairs (these tables could be enlarged with the insertion of planks), and *tinajeros* (stone water filter) for water filtering and cooling (see figs. 4.68); and in the bedrooms, wooden or iron beds, washbasins, and *escaparates* or wardrobes (see figs. 4.69). Also constantly mentioned are desks and leather chairs for the offices (see fig. 4.70), and bookcases, pianos,

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80 In 1865 the house was described as having 40 varas in front and 25 varas in depth, built with masonry and tiles with a flat roof, in bad shape, with an *aljibe* (cistern) in the front. A.H.T., *Protocolo de José María Fernández Cueto de 1867* (June 21, 1865): f. 284v., quoted in García Santana, *Trinidad de Cuba: Ciudad, plazas, casas y valle*, 243. Translation mine.


82 “Created by Thomas Jefferson (1743-1826) for his palace in Monticello, rockers appeared in Trinidad’s press in 1837, when announcing the importation from the United States of *butacas oscilatorias* or *sillas columpio* (swing chairs).” García Santana, *Trinidad de Cuba: Un don del cielo*, 205. Translation mine.

83 A sofa for several persons was usually located in the center of the main wall of the sala, accompanied by several chairs or *butacas*. García Santana, *Trinidad de Cuba: Un don del cielo*, 205.
billiard tables, chess tables, and sewing cabinets (see fig. 4.71) used for entertainment and located in salas or galleries.

In contrast to this typical Cuban casa de vivienda and its unpretentious furniture, some haciendas became real mansions, big enough to house numerous families with great luxury and grandeur. Such are the casas of the San José (a) La Angosta, Armonía, San Martín, and San Rafael sugar mills. According to Cantero, the Armonía’s main house, for example, measured 52 x 60 varas (43 x 50 meters); had an interior patio and a façade with 13 arches; English gardens on both sides, and an extensive grove in the back along with a coach house and stable for 22 horses (see fig. 4.4).84

These impressive mansions were furnished accordingly, and some accounts mention princely interiors, decorated with more comfort and opulence than the typical Cuban hacienda. Describing the interiors of the hacienda La Luisa, near Jovellanos, Roland T. Ely mentions: “valuable interiors, adorned by specialists with marbles and tiles brought from Europe. The bathroom of don José looks like a small pool, like those of Roman aspect.”85 Similarly, Edwin F. Atkins describes the residence of the Carlotta Estate in Cárdenas, where “The house and garden are simply princely. The house has twelve sleeping-rooms, a dining-room with marble floor, two long verandas with inlaid floors, set basins in some of the rooms, and all kinds of fixtures. The garden is large and beautiful with many foreign plants and trees, fountains, baths,

84 Cantero and Laplante, Los ingenios, 179.

85 Usually known as “Luisa,” the property was located three miles from Jovellanos. The name was given in honor of his wife. Ely says that surveying its abandoned gardens “one still can see beautiful marble fountains.” By the time he wrote the book he says there was only standing a fragment of the milling house and a wall from the slave barracks. Ely, Cuando reinaba su majestad el azúcar, 707. Translation mine.
grottoes, hothouse for ferns, etc.” On some occasions, the authors mention unique objects of art, musical instruments and luxury items. Abiel Abbot, describing the interiors of the Angerona plantation in 1829, says that there were many paintings hanging on the walls, an Aeolian harp in one of the windows and a fine piece of statuary, representing a water deity (see fig. 4.37).

The Bohío: History, Appropriation, and Transformation

According to most Cuban architectural historians, between the sixteenth and eighteenth centuries, bohíos were the only housing typology used to allocate the slave population in Cuban sugar mills. Even after the beginning of the nineteenth century, when many Matanzas sugar planters built barracks following the authorities’ recommendation, numerous planters throughout the island decided to keep their slaves living in individual bohíos because it fostered a sense of family and belonging necessary to every man’s existence.

José Montalvo y

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89 Despite the widespread adoption of barracks in the Matanzas region, scholars have argued that the system of bohíos kept being the prevalent housing typology used by Cuban planters. According to Lisette Roura Alvarez, in eastern Cuba, the barracks were never built, and in provinces like Cárdenas, of the 221 ingenios in 1852 “only 98 had barracks . . . thus 60% of the Negroes continued to live in bohíos.” Roura Alvarez, “El Bohío,” 11, 12, 14. Translation mine.

In provinces like Trinidad, for example, barracks were rare, and Alicia García Santana states “slaves slept in bohíos of embarrado (and tiles), grouped in rows, forming a small village or rancherío.” The author mentions only two exceptions: the sugar mills of Magua and San Isidro de los Destiladeros. A map of the railroad between Trinidad and Sancti Spiritu, drawn by Julio Sagebien y Delgado in 1855, gives testimony of the predominance of these slave bohío villages in the Valley of Trinidad, representing 20 out of 22 sugar plantations in the area having a conglomerate of bohíos. García Santana,
Castillo, owner of several ingenios in the western part of the island, asked the Captain General, in a letter from August 15, 1843, for the consent to maintain the system of bohíos, arguing,

The only respite for the African is his hut, his family, and the pleasure he takes in his freedom and independence in the early evening. His animals, his garden plot, his simple chores, are at the very heart and soul of his existence.  

Montalvo y Castillo’s philosophy was shared by other hacendados, who also made their thoughts known to the governor.  

The term *bohío* derives from the Indian word *buhío* (which means house), and it was used not only in the Caribbean but also in other countries of Latin America to designate the houses of the indigenous population. In Cuba, the bohío constitutes a hybrid architectural construction, originally conceived by the Taíno Indians, later adopted and modified by the Spaniards in the early years of the colony, and lastly assigned to the African slaves in the

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91 Jacinto González Larrinaga, for example, affirmed in 1842 that “it is convenient and right that the Negroes live with their families in bohíos, better than in closed barracks.” *Archivo Nacional de Cuba, Gobierno Superior Civil, 1469 / 57999*, April 14, 1842, quoted in Roura Álvarez, “El Bohío,” 13. Translation mine.

Domingo Aldama, in a letter to the Captain General, also stated that he was convinced that “there is no prejudice for the owner in keeping the slaves in family in bohíos or separated buildings,” asserting he always did it that way. Maria del Carmen Barcia, *La otra familia: Parientes, redes y descendencia de los esclavos en Cuba* (Havana: Casa de las Américas, 2003), 216, quoted in Roura Alvarez, “El Bohío,” 14. Translation mine.

The marquis of Campo Florido, also the owner of several plantations, indicated that his slaves were accustomed to live as families “and with their godchildren” in huts that they loved like “an inviolable property, and in which they had all of their possessions, legitimately acquired through their own work, done so willingly on their own time.” Letter of the Marquis of Campo Florido to the Captain General, August 19, 1843, *Archivo Nacional de Cuba, Miscelánea de Expedientes 3585/Cu*, quoted in García Rodríguez, *Voices of the Enslaved*, 35.

Cuban plantations, who also made some changes to the general schema. In Cuban sugar mills, bohíos are the individual houses of African slaves, usually forming a small village on one side of the batey. They were built with wooden boards and thatched roofs or with embarrado walls and tiled roofs.

The African slaves inherited the indigenous Taino house, already modified by the Spanish transformations. The Taino house, as described by the sixteenth-century Cronistas de Indias Fernández de Oviedo, consisted of a simple one-room structure built with a timber frame and walls sheathed with canes or palm leaves, with a waterproof, pitched, palm-thatch roof. Their houses were usually round, although the cacique (chief) lived in more spacious polygonal or elliptical residences; they had no windows, no internal divisions, and floors of only packed leveled earth (see fig. 4.72). The only furniture consisted of hamacas (hammocks), which functioned as beds, some clay pots, water vessels, and woven baskets hanging from the roof to store provisions and objects of personal care. The Indians did not keep grains and other food inside their houses, as the African slaves would do, but rather in a separate construction known as the barbacoa.

According to Bartolomé de las Casas, the Spaniards were favorably impressed by the local bohíos, and soon built their own houses after the indigenous model, making several modifications. The Spaniards disregarded the circular floor plan in favor of the rectangular

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94 Pérez de la Riva, La habitación rural en Cuba, 37-38; Bartolomé de las Casas, Historia de las Indias, (Santo Domingo: Sociedad Dominicana de Bibliófilos, 1987), vol. 2, 214.

95 In his sixteenth-century History of the Indies, Bartolomé de Las Casas described the houses of the island of La Española: “The houses are very long and slender, made of wood and straw, shaped like a bell in that they are narrow at the top and broad at the base, well able to accommodate numerous people. . . . Finally, for being done of wood and straw, they cannot be more gracious and so well done,
one, incorporated internal divisions separating the bedroom from the living room, built a separate structure for the kitchen, added a porch or gallery, windows and concrete floors.

Relating to the materials, the Spaniards introduced the palm tree planks and the use of tiles in the roofs. Bohíos were the first and only residence of Spaniards in Cuba and the rest of the colonies throughout the sixteenth century, until buildings of stone and tiles replaced them. In the city of Havana, bohíos were banned in 1571 and became relegated to the outskirts and countryside, where they were soon adopted to house the slave population of sugar mills.

Bohíos made of vegetal and perishable materials, very similar to the indigenous models, were the first and most traditional type adopted in Cuban sugar mills since the sixteenth century. The walls were made of wooden posts covered with palm leaves or guano, or in better cases, with wooden boards, and roofs thatched with palm leaves (known as yaguas) or grass (see fig. 4.73). This construction technique was known as “vara en tierra” (rod in ground), and in the article “Bohíos,” of 1840, Anselmo Suárez y Romero describes the construction process:

The holidays are the days conceded to the Negroes to build their bohíos, because on days of labor they only have time to eat at noon and to sleep at night when they return from the fields. Thus, one day they open the holes and stick in the wooden posts, eight days after they cross the horizontal rods, and eight days after that, they cover the walls with palms and guano. We can imagine how the secure and clean and healthy, that it is a pleasure to see and inhabit them; and they built some for the lords; and later in this island of La Española, the Indians built some [houses] for the Christians, so large that the Emperor himself could very well, and with pleasure, lodge in them.” Bartolomé de las Casas, Historia de las Indias, vol. 2, 214-215. Translation mine.

96 The doors and windows were made of thick planks of cedar, and they added concrete floors, sometimes covered with clay tiles. Pérez de la Riva, La habitación rural en Cuba, 41; García Santana, Trinidad de Cuba: Ciudad, plazas, casas y valle, 253. Translation mine.

97 Pérez de la Riva, La habitación rural en Cuba, 40, 42. Describing the first decades of the city of Havana, María Luisa Lobo Montalvo states: “Lining these crooked early streets were small bohíos or indigenous shacks roofed with palm fronds; they had fenced yards for growing fruit and vegetables and keeping domestic animals . . . Early Havana soon included homes built of stones and tiles, by order of a royal edict dated March 4, 1539.” Lobo Montalvo, Havana, 40, 42.
work will result, in the haste to finish, and the poor and scarce materials, to which may be added the own rusticity of the slaves’ work . . . . After they stick in the wooden posts and intertwine the rods . . . and after they make the roof structure, they begin to cover the walls. But this last step is done not only with the assistance of the owner’s godsons and friends, but rather with all the Negroes of the estate, who reunite and help, singing happy tunes, laughing and getting excited with the most noisy uproar, as if it was a holiday for them.\(^98\)

The African slaves were familiar with the materials and construction techniques inherited by the Taino bohío, since in Africa they had similar building traditions. According to Susan Denyer, “from southern Cameroon through Zaire and Angola and across to the lake regions of East Africa many houses were built out of palm fronds and bamboo,” the basic framework being a circle of long upright poles embedded in the ground, and with roofs thatched usually with palm leaves, but also using reeds, grass and banana leaves.\(^99\) The slaves not only maintained similar materials, but also preserved the construction process as a festive occasion. Unlike Indians and Spaniards who used slaves and workers to build their houses, the African slave relied on the help of relatives, friends, and neighbors, and transformed the construction into a major social occasion.\(^100\)

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\(^99\) According to Denyer, in coastal areas the rectangular plan with thatched roof was common, especially among the Congo peoples (a powerful empire from several centuries before the late seventeenth century, and occupying the north of Angola and southwestern Zaire) and the Ijo peoples (who lived in the Niger Delta). Their houses were made of mangrove poles or palm fronds (the interstices sometimes filled with mud) with roofs of palm or reed thatch. The villages were formed by a group of houses arranged in a square around a central open space. Susan Denyer, African Traditional Architecture: An Historical and Geographical Perspective (New York: Africana Publishing Company, 1978), 42, 95-97.

\(^100\) Pérez de la Riva, La habitación rural en Cuba, 46; Denyer, African Traditional Architecture, 92. Denyer argues that traditional construction in the rural areas of tropical Africa was almost always a highly cooperative venture. According to Denyer, building is a major social occasion among African cultures; thatching was often done by women while men finished the walls; with the help of neighbors a
In Eduardo Laplante’s lithographs of the Amistad and Intrépido sugar mills, bohíos are rendered having wooden walls and thatched roofs, with a rectangular floor plan (see figs. 4.74 and 4.75). In the case of the Intrépido’s bohíos, the frontal view shows one access door and one or two windows in each residence (see figs. 4.75).

Regarding the interior spaces and furniture of the Cuban sugar mills’ bohíos, the best descriptions are given by Anselmo Suárez y Romero in his article “Bohíos,” portraying in detail those of the ingenio Surinam:

The internal arrangement is always similar. [The bohío] is constituted by a small living room and an even smaller room, without counting the one used as a henhouse . . . . The sala is where they usually live. In the sala the Negroes do almost everything; they keep the fire always burning, they cook, eat and chat. The bedroom is only used to keep the clothing wardrobe, to hang bags with God knows how many things inside, to place the baskets in which they rock their babies, and to accommodate godsons and relatives, since the bohío’s owners slept in the sala. The barbacoa [barbecue] is in the sala in front of the door, and in it they deposit corn, rice, peanuts, sesame seeds and quimbombó [okra], which they harvest in their conucos. The henhouse is different from the other room because of the stairs, where the chicken sleep and lay eggs in the broken molds of purging sugar half filled with hay. But everything is so dirty that makes one sick . . . None of the rooms have doors. There is only one in the entire bohío, made of palm or guano and roughly built, and so small that to pass through it, one must bend the body . . . .

The door is in the bohío’s façade . . . . The large eaves of the roof function as the canopy. Near each bohío is the pigsty, with a little container filled with water for the pigs to drink . . . .

The rectangular floor plan adopted in the Cuban sugar mills’ bohíos and the interior division added to separate the living room from the bedroom were Spanish modifications added to the Indian bohío centuries before. However the tradition of storing foods, housing animals, and cooking inside the house were African customs not shared by Taíno Indians or Spaniards.

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before them.

By the nineteenth century and probably due to the concentration of wealth on the part of the Creole planters and their implementation of the politics of “good treatment,”

bohíos began to be built with embarrado walls and tiled roofs (see fig. 4.76 – 4.79).

Although implementing different materials and construction techniques, this type of bohío kept the same floor plans, interiors, and furniture as earlier ones.

The embarrado walls or paredes de embarro were made of soil. This type of construction was made with wooden posts serving as the structure of the roof, with horizontal crossing sticks to build the walls, which were then filled with adobe mixed with some kind of vegetal fiber to give it consistency (see fig. 4.79).

Although both the continental Indians and Spaniards built in their homelands with similar construction techniques, known by the names of tapias, adobes, and bahareque, there is no evidence they used this technique in the islands or in Cuba.

Alicia García Santana argues that more probably the Africans, who had a long tradition of building walls, roofs, and floors with mud, brought and implemented it in Cuba.

102 See chapter three, “The Infirmaries: Separation, Inspection, and Hygiene.”

103 Of the 25 ingenios described by Cantero, only 6 had bohíos (all of them illustrated in Laplante's lithographs): Manaca Iznaga, Buena Vista, Güinía de Soto, Intrépido, Amistad and San Jose (a) La Angosta.

104 The embarrado technique consists of a wall made of muddy mixture of soil, clay, water and grass that covered a network of vertical and horizontal rods tied with lianas. After 10 days of applying the embarro, a finishing coat, a fine lime plaster, was applied with a brush. López Bastida et. al., Trinidad y el Valle de los Ingenios, 259; Roura Alvarez, “El Bohío;” Cantero and Laplante, Los ingenios, 136.

105 According to Alicia García Santana “no evidence has been found that the autochthonous population used soil to build their houses.” She states that it could be considered, in a preliminary way, “that the constructions of embarrado began to be generalized in Cuba in the seventeenth century.” García Santana, Trinidad de Cuba: Ciudad, plazas, casas y valle, 255-256. Translation mine.

106 In her book African Traditional Architecture, Susan Denyer mentions that houses with mud and/or wattle walls were common in coastal areas and lake shores throughout the continent, especially
García Santana asserts that all the slaves’ bohíos of the Trinidad Valley of the Sugar Mills were built with embarrado walls. Archeological works performed in the ruins of the Manaca Iznaga’s bohíos in Trinidad have confirmed this thesis (see fig. 4.80). In addition, the houses of the village of San Pedro in Trinidad, founded by freed slaves coming from the nearby plantations and still standing today, were also built with embarrado walls (see fig. 4.79). This town, along with the Manaca Iznaga’s slave village, has, to my knowledge, the only surviving examples of slaves’ bohíos, although today completely transformed by centuries of changes and additions made by their successive inhabitants.

Lastly, numerous authors mentioned slaves’ bohíos made with masonry walls and tiled roofs. Masonry or mampostería was a Spanish construction technique, introduced in the sixteenth century, in which walls were made out of stone, rubble and lime-based mortar. In their Spanish American colonies, Spaniards also introduced the use of tiles as a roofing in Nigeria, Senegal, Ivory Coast, Guinea, among other regions. Denyer, African Traditional Architecture, 92-95, 133-142.

In countries like Venezuela and Colombia, this technique is called bahareque, and quincha in the Southern part. According to Alicia García Santana, “The bohíos de embarrado are still being constructed in the same manner: with no windows and covered with thatched roofs. They consist of only one room, destined for all types of functions. The food is prepared outside, for which, on some occasions, they have an oven . . . They usually have a portal, which functions as the living room par excellence in these modest residences. In the front, the cultivated garden recalls the conuco of the indigenous population.” García Santana, Trinidad de Cuba: Ciudad, plazas, casas y valle, 256, 271. Translation mine.

In 1854, the ingenio Manaca Iznaga had 424 slaves, living in 51 bohíos; of these, fourteen buildings have been identified as belonging to the original village, and are now in different stages of deterioration. Recently, the Office of Conservation of the City of Trinidad and the Valley of the Sugar Mills restored 26 houses of this village, although only 14 had patrimonial relevance. Although deeply transformed by successive inhabitants, the village is still in the exact original site. According to José Luis Coello, designer of the Department of Architecture of the Office of Conservation, “the renovations do not pretend to eliminate those rooms added later, which responded to the needs of the actual owners, just to differentiate them from the original structure to facilitate the correct historical reading.” Gisselle Morales Rodriguez, “Fabulaciones a salvo del barracón,” Escambray: Periódico de Sancti Spíritus (September 22, 2009), 2-3, http://www.escambray.cu/Esp/Cultura/fabulaciones-a-salvo-del-barracon (accessed May 24, 2010); Roura Álvarez, “El Bohío,” 18. Translation mine.
material. They were particularly common in the architecture of the Cuban sugar mills, being produced massively within almost every site within the structure known as the tejar (tile factory). Bohios of embarrado or masonry walls and tiled roofs were depicted in Laplante’s lithographs of the Manaca Iznaga, Buena Vista, and Güinía sugar mills (see figs. 4.76 -4.78).109

Cantero describes the slave houses of the ingenio Manaca Iznaga and Güinía de Soto as having masonry walls and tiled roofs.110 In this sugar mill, he states: “the houses of the Negroes are made of masonry and tiles organized in four streets, and composed of a living room, dining room, bedroom, and portal fronting the street” (see fig. 4.76).111 Similarly, S. Hazard, when describing the slave houses of the ingenio Carolina in Cienfuegos, mentions,

There are about five hundred hands upon the place, who live in small houses of stone, each one with a porch in front, and all ranged in streets in regular order, presenting a neat and an attractive appearance.112

In both descriptions, the portal or gallery is mentioned, an element still noticeable in the houses of the Manaca Iznaga slave village and in drawings or photographs of the epoch (see figs. 4.80 and 4.84). This element, also introduced by the Spaniards to the indigenous bohío, was quite familiar to the African population, who, in their homeland, spent most of the time outdoors, where they ate, talked or prepared the food.113


110 Cantero and Laplante, Los ingenios, 136.

111 Cantero and Laplante, Los ingenios, 226. Translation mine.

112 The Ingenio Carolina, “one of the handsomest and best-managed of these states,” belonged to William H. Stewart of Philadelphia. Hazard, Cuba with Pen and Pencil, 334.

113 “In parts of Uganda the men preferred to sit at the gate of their compound under shady trees to talk and eat their food. In northern Ghana and northern Nigeria the women liked to cook outside in the dry season in an unroofed space, partly surrounded by a low wall for shelter from the winds. The
Conclusion

The Cuban planter was a cosmopolite entrepreneur who traveled extensively, read avidly, and was in contact with foreign trends and styles. In his sugar mill house, however, he did not import any specific architectural trend, but rather rescued former models and bluntly showed a reverence for his land: its climate, landscape, crafts, and local materials.

The floor plan and spatial distribution of the Cuban sugar mill hacienda grows out of the earliest colonial patio house, though eventually eliminating the interior courtyard and opening up to the landscape through frontal and posterior galleries. The composition of the façades is Classical in style, but a Classicism of Roman roots, adopting the arcaded porticos used by the Spanish aristocracy a century earlier in their urban palaces in Havana. The rest of the elements are characteristic of Cuban traditional architecture, rescuing local crafts in wood, ceramic and stained glass windows of strong Mudéjar flavor, a circumstance that testifies to a plentiful supply of first-rate artisans who safeguarded ancestral traditions passed from generation to generation. Lastly, a hallmark of the architecture of these houses is their tropical nature, and the way they responded and adapted to the tropical climate. The preeminence of gardens, the inclusion of open galleries, and the exuberance of openings guaranteed light, ventilation, and a direct communion with nature. In addition, the combination of shutters, balustrades, and blinds were meant to temper the rigors of the heat and sunlight.

In a similar way, the sugar mills’ bohíos perpetuate an ancestral traditional structure and construction technique that goes back to the indigenous Taíno population and relied on local and autochthonous materials quite abundant in the Cuban countryside, such as the leaves and
barks of palm, wood, grass, and soil. Incorporating successive Spanish adaptations that changed its form, internal distributions, materials, and construction techniques, the sugar mills’ bohíos also embraced African contributions. Scholars believe African slaves added the porch, incorporated the kitchen into the interior of the house, and introduced the constructive technique of embarrado walls. In this sense, the sugar mills’ bohíos ended up being “an indigenous-Afro-Hispanic transcultural compendium,” as identified by Roura Alvarez.

Although the casa de vivienda and the bohío gravitated at the two ends of the socio-economic spectrum, the straightforwardness of both architectures, the rescuing of ancestral traditions and inherited constructive techniques and crafts, as well as the attention given to the climate, natural landscape, and available materials engenders a sense of ‘lo cubano’ (Cubanness) traduced in unique architectural forms. Of course, the different models or sources of inspiration —indigenous huts for slaves and Spanish palaces for Creoles— denoted the Cuban society’s racial and social division, which originated in the early years of the fifteenth century with the Spanish conquest. Creole planters asserted their power perpetuating this inherited distinction, while slaves contested that power through slight modifications to constructive techniques, uses and distributions of their living quarters, which constitutes one of the rare acts of slave resistance that manifested in the built environment, taking material form. This “Cubanness” thus implied two sides of the same coin, both rooted in the land and the local ancestral traditions and models, but hierarchically separate and different.

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CHAPTER FIVE

APPROPRIATION AND RESISTANCE: THE AFRO-CUBAN LIVED EXPERIENCE

In his book *Back of the Big House*, John M. Vlach argues that within the landscapes designed by the planters, absolute social power was “an ideal that was asserted more often than it was achieved.” Although slave owners set up the contexts of servitude, they did not control those contexts absolutely, and their system of architectural manipulation could be easily frustrated if the slaves refused to acknowledge or take notice of it.¹

Manuel Barcia, in his comprehensive and well-researched book *Seeds of Insurrection: Domination and Resistance on Western Cuban Plantations, 1808-1848*, reveals the wide variety of ways through which Cuban slaves resisted and tested the limits of the institution of slavery. In his words,

Slaves were neither simply spectators to the events that surrounded them nor happy participants in their own oppression. Instead, they resisted domination in its countless forms by negotiating, by reproducing their cultures, by openly revolting, by running away to the forests and mountains, and by taking their own lives . . . . There is no reason to doubt, after all, that physical punishment, frequent underfeeding, imprisonment behind the walls of barracks, and ultimately the very condition of being a slave were enough to prompt acts of resistance.²

The slaves resisted slavery through violent means —homicides, conspiracies, revolts,

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² Manuel Barcia Paz, *Seeds of Insurrection: Domination and Resistance on Western Cuban Plantations, 1808-1848* (Baton Rouge: Louisiana State University Press, 2008), 2, 10. In this book, Manuel Barcia investigates the different forms of resistance practiced by African-born slaves and their descendants under Spanish rule in Cuba, using as primary sources the numerous cases of slave resistance recorded by the Spanish colonial authorities in court records. He pays attention, for the first time in Cuban historiography, to the ways in which slaves resisted their oppression in non-violent, everyday forms, especially through their use of the colonial legal framework and the preservation of their culture, language, and religion.
intentional fires and destruction, marronage, suicides, and abortions— as well as non-violent or disguised forms of resistance, including robbery, work stoppages, religious practice, the use of folklore, the spreading of rumors, and many other actions. In many cases, these forms of resistance involved the use of the sugar mills’ spaces and architectural elements in different ways than those stipulated by the masters. The aim of this chapter is to unveil another layer of meaning in the architecture of nineteenth-century Cuban sugar mills: the one assigned by the enslaved population through their daily use and experience of the sugar mill’s architectural spaces.

According to Henri Lefebvre, an important aspect in the study of architecture is the lived experience, that of the users of spaces. For this analysis, the attention shifts from the conceivers (architects or Creole planters) and the study of façades and architectural forms, to the study of users (slaves) and the interior spaces where actions and moments happened. In Lefebvre’s words,

The user’s space is lived— not represented (or conceived). When compared with the abstract space of the experts (architects, urbanists, planners), the space of everyday activities of users is a concrete one, which is to say, subjective. As a space of ‘subjects’ rather than calculations . . . . It is in this space that the ‘private’ realms asserts itself, albeit more or less vigorously, and always in a conflictual way, against the public one.

This chapter will thus concentrate on actions rather than images, in intangible experiences rather than tangible objects. Following Lefebvre ideas, in order to capture how the user’s space is lived we have to experience space through all the senses; aspects like the smell, noise, singing, speech, gestural and ritual movements, the symbolic, and so on, will open new

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perspectives and assign new meanings to the spaces of the sugar mills. As Lefebvre says, “What we are concerned here is not texts but texture . . . . The restoration of the body means, first and foremost, the restoration of the sensory-sensual —of speech, of the voice, of smell, of hearing. In short, of the non-visual.”

This chapter will analyze how slaves resisted the institution of slavery through their lived experience of architectural spaces, which often implied new uses, new meanings, and new ephemeral appropriations of the architectural forms. First, I will examine the way in which African slaves carved up spaces in which to keep their culture alive, creating a sense of community by contact, singing and dancing, and the reenactment of forbidden habits, customs, and religious beliefs. Second, I will probe the contested and subverted uses of architectural spaces, from the planning of conspiracies in the privacy of the huts or factories to the occupation and domination, albeit momentarily, of these spaces through collective protests and revolts that often led to their destruction as a common form of expressive violence. In all the analyses presented in this chapter, the Western predominance of form, monumentality, and façade is overthrown by the slaves’ tendency to use the empty spaces, the voids (interior or open), and transform them through the power of their bodily experience, their chants, their singing, the sound of their drums, among many other manifestations.

The material evidence that comprises the archaeological record of Cuban sugar mills and the bird-eye views of nineteenth-century lithographs tell us little about the lives of people who worked there and their acts of resistance and negotiation. Furthermore, travelers usually paid little attention to the lives of the slaves, and their accounts focus more on the life in the

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5 Lefebvre, “The Production of Space,” 140, 146.

6 Lefebvre, “The Production of Space,” 145.
casa de vivienda than in the barracks or bohíos. Due to the near total lack of slaves’ autobiographies in Cuba, their voices can more frequently be found in the numerous court proceedings recorded by the Spanish colonial authorities and found today in archives, in which slaves figured as witnesses, defendants, petitioners, or advocates. For this chapter, the books of Gloria García Rodríguez, *Voices of the Enslaved in Nineteenth-Century Cuba: A Documentary History*, and Manuel Barcia, *Seeds of Insurrection*, have been instrumental, since they both reproduce documents, letters, and records of judicial proceedings that “allow us to penetrate the inner workings of the slave system in greater depth and detail from a unique perspective.”

In addition, the years between 1830 and 1840 are considered the golden epoch of Cuban costumbrista literature, a genre that usually focuses on the way of life, habits, and customs of Cuban society. The novels, written by Creole intellectuals, were usually quite critical of the condition of slavery in the island, paying special attention to the life of African slaves. Another key author for this chapter is Anselmo Suárez y Romero (1818-1878) and his extensive articles about rural life in Cuba. In the section “Costumbres del Campo” (rural customs) of his *Colección de artículos*, he dedicated seven articles to describing the lives of slaves, their dances, chants, and habits, which he saw directly during his stay in the ingenio Surinam. By

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7 Juan Francisco Manzano’s *Autobiografía de un esclavo*, constitutes the only known autobiographical account written by a slave in Cuba. In this work, the Cuban Creole mulatto recounts his tormented existence as an urban slave in the mid 1800. Mostly a narrative of a personal tragedy, it contributes little to the understanding of Cuban sugar mill spaces and architecture. See Juan Francisco Manzano, *Autobiografía de un esclavo* (1849; repr., Detroit: Wayne State University Press, 1996).


combining these writings with the slaves’ own testimonies, this chapter will unveil their reception, appropriation, and transformation of the sugar mill’s architectural spaces in order to undermine Creole power and make their own condition more bearable.

**Community and Family Life in Bohío Villages**

In those ingenios where the slaves lived in individual houses (bohíos), they had the prospect, otherwise completely denied, of carving out a domain of their own, and through it, improving, however slightly, the conditions of their captivity.\(^{10}\) Within these villages, relatively isolated from the rest of the complex and where surveillance could be avoided, the slaves were able to establish strong family identities, fostering solidarity among neighbors and a sense of community.

Even though the nature of slavery conspired against the formation and stability of the family, because of the imbalance of the sexes\(^ {11}\) and the constant fear of separation, marriages did take place, if not by the Catholic Church, “by the manigua,” a generic term for jungle

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\(^{10}\) Vlach, *Back of the Big House*, 14.

\(^{11}\) According to several historians, on Cuban plantations, productive males outnumbered productive females. In the beginning, sugarmen imported only male slaves, since women were considered to be less productive. However, the problem became serious in the late eighteenth century, since the natural reproduction of slave crews was almost impossible and slave prices began to rise. Early in the nineteenth century a Real Cédula required masters of all-male mills to buy as many women as were needed for slaves wishing to marry. In addition, special taxes were ascribed to mills having less than 33% females in their crews. A royal order in 1855, insisted that all proprietors be forced to balance the sex ratio on their farms. These incentives were meant to encourage the natural procreation of the slaves on the states. Again for economic reasons, the sexual problem was reduced, and sugar planters realized that the low yield of females was a myth. Franklin W. Knight, *Slave Society in Cuba during the Nineteenth Century* (Madison: University of Wisconsin Press, 1970), 76; Manuel Moreno Fraginals, *The Sugarmill: The Socioeconomic Complex of Sugar in Cuba*, trans. Cedric Belfrage (New York and London: Monthly Review Press, 1976), 142. See also Maturin M. Ballou, *Due South; or Cuba Past and Present* (1885; repr., New York: Negro Universities Press, 1969), 281; and Alexander von Humbold, *The Island of Cuba*, trans. J. S. Thrasher (New York: Derby and Jackson, 1801, 1856), in Louis A. Pérez, ed., *Slaves, Sugar & Colonial Society: Travel Accounts of Cuba, 1801-1899* (Wilmington, DE: Scholarly Resources, 1992), 100.
brush, which refers to a less formal consensual union. Of course slaves had to surmount innumerables sacrifices to maintain and preserve those ties, and there is no doubt as to the precarious nature of the families’ existence within the sugar mills. However, the existence of families has been confirmed by archival documents, from the eighteenth century onward, including “attempts to rescue family members, obtain their freedom, or seek to protect them from the abuses of masters and mayorals alike.”12 In addition, the provision of independent housing for couples, either in the bohíos or in the barracks reflected the existence of such relationships.13

A common practice among slave couples, if they did not have children of their own, was to adopt adolescents and new arrivals from Africa, making them members of the family and forming mutually enduring affective ties.14 This institution of “padrinazgo,” in which a recent arrival chose a “padrino” or godfather, usually for purposes of baptismal rites, created a set of relations that became an important and long-lasting vehicle for solidarity within the slave community.15

In the spaces of the bohíos, the slaves could have a sense of familial life when they

12 García Rodríguez, *Voices of the Enslaved*, 29.


15 According to García Rodríguez: “The relationship between a godfather and his godson was Catholic in origin, but those terms also reflected African religious practices. In both the Regla de Ocha, better known as Santería, and the Congolese system of religious beliefs known as Regla de Palo, the priest administered rites and the recent converts who received them were known, respectively, as godfather and godson. Both were subject to reciprocal obligations.” García Rodríguez, *Voices of the Enslaved*, 33.
reunited to eat or rest on Sundays, especially during the “dead season.” In his article “Los domingos en los ingenios” (“Sundays in the Sugar Mills”), Anselmo Suárez y Romero relates that in “the grassy streets of the bohíos,”

... You will hear laughs and happy chants... you will hear the noise of the Negroes’ basins where they prepare their food, the crackling of the firewood which burns in the living room of each bohío with a bright flame, the clucking of hens and chirping of chickens who come to eat the few grains of corn that their masters spill in front of the door.16

In the plantations where slaves lived in bohíos instead of barracks, they received a raw portion of food—a piece of cod (bacalao) or dried beef (tasajo)—that they brought and cooked in their houses, where the women usually headed the kitchen. In the bohíos, the slaves were able to pound the rice and smash the corn in wooden pilones, the way they used to do it in Africa, preparing traditional African dishes, such as the quimbombó, the calalú, the ecó, etc. (see fig. 4.82).17

These African dishes were usually prepared with the products harvested from their conucos, or small plots of land conceded to the slaves to cultivate in times not dedicated to the master.18 As early as 1789, slaves regulations in Cuba established the right of the slaves to work a plot of land during holidays and rest periods, in order to provide additional food for themselves and their families and to produce surplus for sale.19 Even though specific conucos


18 The word “conuco” is originally Indian and means a cultivated field.

19 According to the “Royal decree and instructional circular for the Indies on the education, treatment, and work regimen of slaves” from May 31, 1789, chapter three, “slaves will be allotted two hours during the course of the day to devote to production of manufactures or to other tasks that result in
are difficult to identify and analyze archaeologically, they are constantly mentioned in the literature of the epoch,\textsuperscript{20} and even represented in several of Eduardo Laplante’s lithographs (see figs. 4.74, 4.76 - 4.78).\textsuperscript{21}

The grains harvested in the conucos (corn, rice, peanuts, sesame seeds, etc.) were kept in the interior of the bohíos, along with the rest of the slaves’ belongings. Chickens were also part of the interior furniture (the henhouse being a staircase inside the sala), and the pigsty was a bohío’s annex, outside but part of the house.\textsuperscript{22} Consequently, the bohío, along with the

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\textsuperscript{21} Large conucos are represented in Eduardo Laplante’s lithographs of the Amistad, Manaca Iznaga, and Güinia de Soto sugar mills. In the case of the Amistad (fig. 4.74), several trees sneak up between the bohíos, suggesting the existence of small plots of cultivated land between one bohío and the next. In the case of the Manaca Iznaga’s lithograph (fig. 4.76) a wooden fence delimits a large conuco, mostly planted with plantain trees, immediately next to the group of bohíos. The plantain was the most important complementary crop in every sugar mill because it had a double function: the fruit served to feed the enslaved population, and the leaves were used to cover the gavetas (trays) of the purging house. Lastly, the conuco represented in the Güinia de Soto’s lithograph (fig. 4.77) is not only delimited by a wooden fence, but also emphasized with a portal. In this case, the conuco is located next to the bohíos, the dam and the stream, which provided irrigation. In addition, a group of trees suggesting a conuco is also noticeable in the Buena Vista lithograph (fig. 4.78).

\textsuperscript{22} See chapter four, “The Bohío: History, Appropriation, and Transformation.”
cono, became physical belongings to the enslaved population, from which they could even establish a territorial claim within the plantation’s confines. To assert this right to personal space and property slaves secured their houses under lock and key. In several passages and articles, Anselmo Suárez mention the “wooden key” used by the Negroes to lock their houses:

This door is locked by some Negroes with an iron lock, or more commonly with a wooden key, like a saw, a mechanism that although very simple is hard to forge due to the different sizes.

Once they were able to establish this level of proprietorship, some slaves felt emboldened to transform their houses into a location in which to make profit, like raising pigs, chickens, or ducks to sell later; storing grains for consumption or sale; and sometimes even transforming the bohío into a gambling house or a place for religious cults.

African religious rituals and beliefs were preserved in the privacy of the sugar mills’ bohíos, often keeping a secret place for worship. In Cuba, syncretic religious practices developed when the beliefs of West Africa were combined with those of Roman Catholicism. The slaves brought their various religious customs, including their Orishas (gods or spirits), the trance and divination system for communicating with their ancestors and deities, animal sacrifices, and sacred drumming and dances. Two important popular religions of African origins practiced in the sugar mills were Santería, from Western Nigeria, and the Reglas

23 Vlach, Back of the Big House, 14-15.


25 Martín Carabalí of the sugar mill Majana opened a gambling house and made illegal profits thereby. According to his own testimony, in his hut ‘people frequently gambled, and there was also a selling point of alcoholic beverages.’ “Deposition of Martín Carabalí,” Guanabo, August 1831, Archivo Nacional de Cuba, ANC: ME. 490/F, quoted in Barcia, Seeds of Insurrection, 108.
Congas of Bantu origin, from Congo and Angola regions. Each one of these cults had specific objects and deities that were adored and kept in the practitioner’s domestic domain.

Santería is an Afro-Cuban religion based on the worship of the orishas or deities of the Yoruba pantheon of Western Nigeria. Due to the haste of the slaves’ conversion to Christianity, the lack of priests in the plantations, and the negligent attitude of the planters regarding the slaves’ evangelization, they kept many of their African beliefs and practices and either hid or disguised them from their masters, developing a complex system in which each Orisha was paired with a Roman Catholic saint. In this regard, Ortiz explains that,

In the ingenios, the slaves used to have, with their master’s consent, an altar with the image of Santa Barbara, the Virgin of Regla, etc. and for their cult they formed cofradías. Now, Santa Bárbara was, for the Negroes, the orisha Shangó, and the Virgin of Regla was the orisha Yemanyá, etc.26

In Santería cults, the deities or orishas are symbolically materialized through stones and other elements, zealously guarded by believers in well-differentiated receptacles, which corresponded to the attributes of each deity. Each god is considered a member of the family, and kept inside the house through their symbolical materialization. This tradition initiated when some slaves brought from Africa stones from the surroundings of their gods’ temples. When they arrived in Cuba, these stones became their only valuable belongings, and came to represent their orishas. In Cuban sugar mills, these stones were placed in humble receptacles, as seen in the reproduction of a Santería altar in the Museum of the Álava ingenio (see fig. 5.1).

This tradition continues until today, and stones are now gathered from the environment

26 Fernando Ortiz, Los negros brujos (1906; reprint, Puerto Rico: Editorial Nuevo Mundo, 2011), 305. Translation mine. Yemanyá was the god of the seas and Shangó, the god of thunder and lightning (the second greatest orisha, after Obatalá). Ortiz, Los negros brujos, 129-132, 308. Other important orishas were Obatalá, paired with Nuestra Señora de la Merced (Our Lady of Mercy); Oyá with Nuestra Señora de Candelaria (Our Lady of Candlemas); Ochún with Nuestra Señora de la Caridad del Cobre (Our Lady of Charity); and Babalú Ayé with San Lázaro (Saint Lazarus). Museo de Guanabacoa, “Permanent Collection,” Havana, Cuba (accessed February, 2015).
corresponding to each deity according to their nature or attributes. 27 Nowadays, the stones and elements are still kept inside their houses but placed in sophisticated porcelain plates inside closed glass cabinets (see fig. 5.2).

In addition to receptacles with stones, Santería practitioners also kept inside their houses representations of their orishas in the form of dolls (usually positioned in the salas) or in the form of small figurines made of wood, textiles, and beads (see figs. 5.3 and 5.4). Furthermore, representations of the four main gods were kept behind the main door of the house, as recreated in the Museo of Guanabacoa en Havana. In figure 5.5 we can observe the symbolic realizations and items related to the gods Elegguá, god of fate, Oggún, god of forge and metals, and Ochosi, god of hunting and justice.

Another important religious practice was the Reglas Congas or Palomonte, native of the regions of Congo and Angola, whose deities are very closely linked to the forces of nature. 28 Similarly to the Santería cults, this religious expression is based on the worship of the Nganga, a receptacle kept in their houses (gardens or bedrooms) loaded with magic. Each supernatural entity is represented by a different kind of receptacle prepared with animal, vegetable and mineral elements and “activated” with human blood. Practitioners believed the power of the spirits were present in these receptacles, and they could communicate through it with the believer (see fig. 5.6). These deities were later identified with Santería orishas and Catholic

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27 For Ochún (god of rivers) they use river stones; for Elegguá (oricha of the roads) they use stones from roads; for Changó (god of war, bolts and drums) they use stones from where lightning struck; and for Yemayá (goddess of the seas and maternity) they use sea-stones.

28 This cult was developed by slaves usually identified as Congos, who had a profound knowledge of flora and fauna, and used magic incantations and witchcraft.
saints intermingling with the different cults and spirits.  

These elements, usually related to the natural world and landscape or to working tools, would easily pass unnoticed to the unfamiliar eye, and would have been effortlessly concealed from majorales and other white authorities in the ingenios. Kept in the privacy of their huts, these elements allowed slaves to preserve their African beliefs, and continue to perform their native rituals and devotions.

A common personage in each sugar mill was the Santero or Santera (priest or priestess of Santería), also known as the “Negro brujo,” who cast magical spells, mixed life-saving potions, or recited incantations ensuring the victory of a revolt. A photograph of the Santera Bonifacia Alfonso (1870-1957) of the ingenio Triunvirato is displayed in the National Museum of the Slave Route, located in the Castle of San Severino in Matanzas (see fig. 5.7).

The bohío of the Santero usually functioned as a temple with an altar dedicated to worship, rituals, and ceremonies (see fig. 5.8). Fernando Ortiz, in his book Los negros brujos, describes the bohío of the sorcerer Bocú:

The bohío of the sorcerer Bocú is distinguished from all the surroundings, not only by being whitened (which could be related to the sacred color of the supreme orisha Obatalá) but also for a thick iron chain that as a kind of handrail was tied from one wooden post to the next in the bohío’s portal. This iron chain, so strangely located, was probably a fetish symbol of Eleguá, the evil orisha, by way of a barrier, or guardian, against the bad thing.  

These transformations of the bohío to serve a specific religion constituted a strong assertion of the slaves’ power to transform their spaces in order to follow their beliefs and

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29 For example Sarabanda, in the Regla del Congo practice is Oggún, Siete Rayos is Changó (or Santa Bárbara), Madre Agria is Yemayá (or Virgen de Regla) and Lucero is Elegguá (or San Antonio).

30 García Rodríguez, Voices of the Enslaved, 28.

31 Ortiz, Los negros brujos, 174-175. Translation mine.
traditions. Furthermore, the arrangement of the altar, usually located in the bedroom of the
house, also constitutes a cultural statement. Ortiz includes a detailed description of a Santería
altar (see fig. 5.9):

Over a table adorned with an embroidered cloth, are several vessels containing
the food offerings. On the left, an ax and knives, which could be sacrificial
instruments or representations of Eshú, because of the iron in their composition.
On the right, the *jimaguas* [twins]. On the small stand, a candle and a vase with
flowers; on the top, one of the Virgins that the superficial Catholicism of the
*brujos* assimilate to some *orisha*. On the front of the altar, several adornments
with necklaces of beads of different colors, which represent several orishas, and
an arrow with its bow, which could be a symbol of *Oshú-Oshí*. Hanging on the
wall, paintings of Catholic images, a horseshoe (fetish of iron) and a bunch of
herbs, which could be idolatrous fetishes, as well as material for the preparation
of charms.\(^{32}\)

Also part of any Santero’s bohío or cell was the Santero’s throne, such as the original
piece on exhibition in the Museum of the ingenio Álava in Colón, Matanzas (see fig. 5.10). The
Santería rituals usually included processions, offerings, and music, in which the bohío of the
brujo became the center of the village. The religious fiestas usually began with the sound of the
drums (a sound called *bembé*), accompanied by a monotonous chant, which consisted of an
invocation to the Saint, followed by a procession led by the brujo around the temple carrying
the food offerings. They deposited the objects at the altar of sacrifice and immediately
afterwards they began the sacred dance followed by a succulent meal. For these cults, the

\(^{32}\) Ortiz, *Los negros brujos*, 175-178. Translation mine. The orishas are the spirits or deities in
Yoruba religion. Eshú is the malevolent god, represented by iron elements, such as knives, chains or
keys. The *jimaguas* or twins are powerful idols that do not have a Catholic form and are usually adored
in their African image. Oshú-Oshí is the god of the hunters and walkers, usually represented by a human
figure with a bow, or sometimes only a bow and arrow. In some Cuban provinces, the Catholic form of
Oshó-oshí was Saint George (San Jorge). Ortiz, *Los negros brujos*, 134-135, 139, 144.
brujo used ritual masks and several musical instruments, such as the three drums, the 
marímbula, the marugas, and several others (see fig. 5.11).  

Musical instruments are quite important in every religious practice of African origin. 
For Santería, musical instruments are used to talk to the orishas, each one requiring specific 
Instruments. For example, to communicate with the orisha Ochún, Santería practitioners use a 
small bell with a musical sound to communicate with Changó and Yemayá they use maracas; 
for Oyá, the shell (husk) of the flamboyan tree; and for Obatalá, a bell (see fig. 5.12). Drums 
are also used to produce the secret music for the orishas. The batá drums are used in the 
Santería rituals (see fig. 5.13), while the tambores yuka (yucca drums) are used in the cults of 
the Reglas Conga (see fig. 5.14). 

Landscape Appropriation and the Breaking of Confinement

One of the most common forms of resistance among Cuban slaves was running away, 
either for a few hours, a couple of days, weeks, or permanently. In order to succeed, slaves 
needed a detailed knowledge of the hinterland surrounding the estate, a landscape that often 
symbolized the freedom of the outside world. Consequently, enslaved workers created a 
complex system of paths, shortcuts, and hidden gathering places that could serve for temporary

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33 Ortiz, Los negros brujos, 201-204. Of the African instruments, Ortiz explains that the drums 
come in several forms and sizes: the marugas are a hollowed instrument with small rocks in the interior 
to sound when agitated; and the guiro or calabozo, of indian origins, consist of a dry gourd with several 
horizontal fissures above which a small wooden stick gets passed. Ortiz, Los negros brujos, 76, 79-80. 
Translation mine.

34 They are named caja, mula and chachimbo; made of wood (aguacate or almond tree), of a 
single trunk, and leather.

35 Drums made of wood and leather; they are used in festivities and ceremonies for the orishas 
of Santería. They receive the names of Iyá (the larger), Itótele (middle one) and Okónkolo (the 
smallest).
refuge, religious rituals, love encounters, and secret meetings and gatherings. This “alternative territorial system,” as it is called by Rhys Isaac, rejected the open character and geometric precision of the planters’ carefully calculated processional landscape in favor of the informal quality of winding and intricate paths, secret and hidden spaces, that were the consequence of improvisational, and more natural, responses to the landscape.36

As García Rodríguez states, “the image of a plantation slave community totally isolated and under lockdown existed only as an ideal type.”37 Since the Cuban Slave Code prohibited any unauthorized movement outside the confines of each slave’s plantation, slaves had to develop a system of improvised paths that allowed them to move without being detected. Thus, they created their own “channels of communication and commerce,” avoiding the open and formal axis and roads devised by the planters, and moving as they pleased across the fields, gardens, and grounds through shortcuts and trails that traversed the woods and marshlands of the surrounding cane fields. According to the author, slaves sometimes left the plantation without formal permission, taking advantage of the carelessness of some hired hand, or acted in complicity with the contramayoral who fomented late-night meetings. In either case, they left without the required authorization and sometimes walked miles in order to effect a fleeting encounter, visiting fathers, sons, or brothers separated by the vicissitudes of slavery and placed often in some fairly distant plantations. Most of the time they left during the night or on holidays and conveniently returned to their assigned tasks the next morning without being

36 Several authors analyzing the American plantations have suggested that paths and trails into the countryside were central elements of the slave landscape in the American South. Rhys Isaac, in his Transformation of Virginia, considers the whole ensemble of sites and pathways as “an alternative territorial system.” This system encouraged racial solidarity and provided slaves with a means to escape, at least temporarily, from their masters’ control. Rhys Isaac, The Transformation of Virginia, 1740-1790 (Chapel Hill: University of North Carolina Press, 1982), 52-53.

37 García Rodríguez, Voices of the Enslaved, 39.
detected. This way, they were able to maintain family bonds, ties with fellow slaves, and links with the free population.\textsuperscript{38}

In the 1854 article “El cementerio del ingenio” (The sugar mill’s cemetery), Anselmo Suárez elaborates short narrations of different slave lives in Cuban plantations. The story of the slave Rogelio is particularly noteworthy:

Looking with indifference at all the slaves in this sugar mill, he had given his heart to an African from his same tribe who belonged to a coffee plantation located a league of distance away. . . . After the curfew, Rogerio left his \textit{bohío} armed with a machete of cutting cane, crossed the river, and leaving the lands of the \textit{ingenio} behind, entered the in-between estates, until arriving at the woman who would cost him his life. At sunrise, Rogerio was already back again in his \textit{bohío}.\textsuperscript{39}

Cuban slaves also wandered around the vicinity of their plantations selling the products of their conucos and making exchanges not only with other plantations’ slaves but also with bands of runaways and Palenque communities.\textsuperscript{40} On occasions, they even escaped during the night to have a spare moment or to enjoy some entertainment at a nearby gambling house. Nevertheless, the most common reason to leave the sugar mill’s premises was in order to abscond or run away, at least for a brief period of time. The slaves familiarized themselves with all the adjacent land features so they could run away

\textsuperscript{38} García Rodríguez, \textit{Voices of the Enslaved}, 39, 31, 40.


\textsuperscript{40} Ignacio Zabaleta Criollo, for example, was punished in April 1844 for selling his plantains without the approval of the mayoral of the sugar mill La Sierra. Barcia, \textit{Seeds of Insurrection}, 108. The palenques were runaway slave settlements located in the most inaccessible places of the mountains, forests, hills, and swamps. Their inhabitants were called \textit{cimarrones apalancados}, or just \textit{apalancados}. An important and academically rigorous study of Cuban palenques is that of Gabino La Rosa Corzo, \textit{Runaway Slave Settlements in Cuba: Resistance and Repression} (Chapel Hill: University of North Carolina Press, 2003).
to lead a wandering life in the wilderness or, in some cases, to escape captivity entirely, by drifting to a larger town.

Numerous are the written documents of cases of slaves who escaped their plantations and hid in the bushes for several months, until they voluntarily returned to their owners or were captured.\(^{41}\) In 1837, for example, several slaves escaped from the ingenio El Mariel and, in their court records, indicated they hid in the bushes of nearby coffee plantations, surviving for several months. Two of these slaves hid in the Zacanini coffee plantation, one of them surviving four months concealed by the bushes and eating “plantains from that very coffee plantation, roasting them over a fire at night.”\(^{42}\) The direct exposure to the natural elements and the serious problems finding food were among the multiple risks of any escape, for which was also necessary a vast and highly developed geographical knowledge of the hinterlands.\(^{43}\)

This vast knowledge of the adjacent lands was not only necessary for those who wanted to escape and survive without being captured, but also for the slaves who dedicated themselves to catch fellow runaways and return them to the authorities in exchange of a reward of four pesos established in the article 21 of the *Bando de Gobernación y Policía* of 1842 and in the

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\(^{41}\) In 1835, Rita Gangá, from the ingenio Jesús María, belonging to Don Diego López de Villavicencio and Santiago Ramón Sánchez, ran away and “hid for some days in the cane fields on that very farm.” García Rodríguez, *Voices of the Enslaved*, 87.

\(^{42}\) See the statements of Agustín Carabalí, Gabriel, Vicente Bibi and Hilario Congo, slaves on the Ingenio El Mariel, Guanajay, August 1837, ANC, Miscelánea de Expedientes, 604/M8, in García Rodríguez, *Voices of the Enslaved*, 166-167. For example, Agustín Carabalí “hid himself in the mango orchard on that very estate, where he remained for a day. The following night, he went on to the coffee plantation Santo Tomás . . . . He hid among the coffee shrubs there for a month, more or less.” Hilario Congo “. . . ran away from the ingenio in question a month before the end of sugar-milling season, making for the coffee plantation Santo Tomás that very same day. He hid among the brush twenty some days, at the end of which he came out and went home.”

Slave Code of 1842. Mayorales and slaves, accompanied by specially trained dogs, led expeditions into the mountains and bushes to capture the cimarrones or runaway slaves (see fig. 5.15). John George F. Wurdemann, in his Notes on Cuba, noted that,

During the winter, when the labor on the sugar estates is very great, many of the slaves abscond, and lead a roving life in the woods. They often make extensive depredations on the hogs and plantains of the coffee-planters, and are sometimes hunted by bloodhounds. The greatest number are captured by the slaves on the different estates, who obtain from the captain of partido four dollars for each prisoner; and they are as active in the chase as they would be in their native forests to collect a supply for the slavers. On a single estate, where I resided, ten runaways were caught in a few months by three or four of the negroes, who at their own request were permitted to patrol about the grounds after the last curfew.

The hinterlands, filled with secret tracks and hidden places was also a place to carry out clandestine meetings in which slaves performed religious rituals, chatted, danced or sang, but most commonly, planned a rebellion or conspired against their white oppressors. Communication and secret meetings between slaves from different plantations was a permanent concern for owners, overseers, and local authorities. In 1843, Carlos Ghersi, a planter and militia officer in the jurisdiction of Macuriges, wrote,

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44 See articles 21 and 40 of the Bando de gobernación y policía de la isla de Cuba, por el capitán Sr. D. Gerónimo Valdés, November 14, 1842, and article 21 of the Reglamento de Esclavos (Código negro hispano-cubano), both in Fernando Ortiz, Hampa afro-cubana: Los negros esclavos, 482-492.

45 Knight, Slave Society in Cuba, 80. See also Mercedes de Santa Cruz, Countess of Merlin, who wrote: “the canine race in Cuba is unique in its strength, intelligence and its incredible aversion to the black cimarrones . . . . When a slave escapes, the mayoral leads the dog to the fugitive’s bohio and puts his nose in any of the Negro’s belongings. Sometimes combat ensues between the Negro and the dog; but the latter always has the advantage, and even wounded, does not let go his prey.” In Roland T. Ely, Cuándo reinaba su majestad el azúcar (Buenos Aires: Editorial Sudamericana, 1963), 494. Translation mine.

Slaves watch their governors. The houses of the latter are usually far away from the slaves’ huts, and thus they make use of the hours of natural rest to run away; they establish communication with other estates, choosing the farm in which the white employees are less vigilant as a meeting point, and from those gatherings and communications are born all the disorders, thefts, and everything else to be feared . . . . They abandon their estates by the footpaths across the hills, cane fields, and coffee dryers, and, therefore, nothing can be avoided.47

The slaves also used the hinterlands and bushes to hid weapons for a coming rebellion. On June 18, 1837, Lucumí slaves led a revolt in the sugar mill La Sonora. In the court records, the accused stated that “in preparation for taking their revenge, (against the mayoral), they had been hiding sticks, rocks, knives, and machetes in the bushes.”48

On other occasions, the burying of unusual objects had ritual purposes, related or not to a coming revolt, and their discovery puzzled the authorities of the time. An interesting case occurred on March 11, 1839, outside the village of Aguacate between Matanzas and Madruga, when the free pardo Cirilo César went to the lieutenancy to give notice about some things he had seen at a crossroad. The authorities confirmed what he had told them and discovered a “dead pigeon flanked by some silver coins, Negroes’ kinky hair, and some pigeon feathers.” In the nearby bushes, they also found a dead, colorful rooster lying on a rustic litter made of wild cane, with silver coins on his chest; a knife jammed into the ground and surrounded by some silver coins; and a large number of black beans forming a trail.49 The investigations led to the


49 “Information written by the Lieutenant Luis de León,” Aguacate, March 1839, ANC: ME 448/Q, in Barcia, Seeds of Insurrection, 121. According to Fernando Ortiz, birds are usually offered to the orishas—for Obatalá white birds; for Oshún, yellow chickens; and for Shangó indian roosters, etc. Other animals are also offered, like pigs, goats, etc. but this is not very common. The rooster is also used for enchantments and as offering for the orishas. See Ortiz, Los negros brujos, 198-200.
coffee plantation Concepción, and in his testimony, the slave José Carabalí revealed some
details about the African meaning of the discovered items. He said that in Africa,

. . . when they want to fight, they put in an old basket piquant leaves, ants, heads
of nasty dogs, snakes, and all the warm things they can find, and that they take
them to the place where they are going to fight as a signal of challenge, and also
as a signal that those who are going to fight are brave men.  

African religious beliefs, also known as black witchcraft, were deeply embedded in the
daily life of sugar and coffee plantations, and their rituals and beliefs usually depended on a
close connection to the land and trees, some of them considered sacred. Besides using the
privacy of the brujo’s bohío, African slaves also performed ritual sacrifices outside, preferably
around a seiba tree, which was considered sacred for Yoruba culture and religion. The seiba
tree was very important for both the Santería and Reglas Congas religious practices. According
to Ortiz in his book *Los negros brujos*,

In the countryside . . . there are specific sites consecrated to the certain acts of
witchcraft. For example, recently cited in a court of law was a seiba (in the sugar
mill Fajardo, El Gabriel, in the province of Havana), under which several
fetishistic ceremonies had been celebrated. In its trunk, the wizard had made
several markings, and around [the seiba] there were clay pots with offerings,
feathers, horns, etc. It could represent an idolatrous cult of a fetish tree. The
seiba, the largest tree of the Cuban flora, has replaced the sacred African
baobab.  

In the open fields, the seiba, which is often a hundred feet high tree with widespread
branches and a dense canopy of leaves, became, as Maturin Ballou describes, “an umbrella . . .
forming a perfect shade against the power of the torrid sun.”

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50 “Deposition of José Carabalí Isuamo,” Aguacate, March 1839, ANC: ME 448/Q, in Barcia,
*Seeds of Insurrection*, 122.


52 Ballou, *Due South; or Cuba Past and Present*, 253.
“place were the orishas and ancestors lived,”53 “a magic tree haunted by spirits,”54 that African slaves worshipped and bestowed with offerings. In the ingenio Taoro in the province of Artemisa near Havana a giant seiba tree was located in the batey near the slave barracks, where it was used for ceremonies, rituals and offerings. Even today, the followers of the Santería religion come to this seiba inside the ruins to perform rituals on certain important festivities (see fig. 5.16-a).55 Numerous magic encantations, rituals or ceremonies of both Santería and Reglas del Congo religions were performed under a seiba tree, and they became important elements in each batey. Other giant seibas have been located in the ingenios Santo Domingo and Álava, both in Matanzas (see fig. 5.16-b-c).

Thus, these appropriations of the landscape, in a way not intended by the master, constitutes a unique way in which African slaves seized and transformed the plantation hinterlands. Although not a monumental, nor even tangible or visible, architectural assertion, these acts are key to understand the African connection to the land and trees, more direct, close, and sacred than that of Creole planters. The intricate web of winding roads and secret paths, devised to undetectably escape the confines of the plantation, contradicts the open and ceremonial Cartesian layout devised by Creole planters.56 Furthermore, the buried objects and ceremonial trees assert the slaves’ sacred and close relation to the natural environment, not shared by the Catholic planters, whose religion did not incorporate natural forces and deities.

53 Personal communication to the author by the tour guide of the ingenio Taoro, Havana, Cuba, January 13, 2014.

54 Ballou, Due South; or Cuba Past and Present, 253.

55 Personal communication to the author by the tour guide of the ingenio Taoro, Havana, Cuba, January 13, 2014.

56 See chapter one, “Order and Processional Landscape in the Sugar Mill Layout.”
The Breaking of Isolation: Chants and Dances in the Sugar Mill’s Open Spaces

With their lack of physical barriers, the sugar mill’s open spaces, such as the batey and the factories, not only favored the surveillance sought by the planters, but also permitted group activities, communication and contact, fostering worker solidarity and a sense of community among the slaves. In these spaces, slaves made use of communal singing and dancing to break their isolation and strengthen their bonds and power as a group. As Thomas A. Markus argues in his book, the sharing of some kind of leisure and pleasure becomes “an escape from the reality of powerlessness, or an assertion of the alternative power of the crowd.”

In the mills and industrial factories, the slaves usually accompanied their chores with chants, as they were accustomed to in their own land. Markus argues that when produced spontaneously, the chants become a stimulating, encouraging, inspiring, and alleviating element. It also constitutes an important spatial action that, in Henri Lefebvre’s words “opens a way from everyday concerns to collective joy.”

Traveler writers such as Richard Henry Dana and William Henry Hurlbert were impressed by the chants that accompanied the slaves’ work in the boiling houses, and their descriptions (although containing pejorative adjectives) illustrate the power of the slaves’ voices to overshadow the noise of machines through its commanding cadence and dominant uproar.

The clank of the engine, the steady grind of the machines, and the high, wild cry of the negroes at the caldrons to the stokers at the furnace doors, as they chant out their directions or wants—now for more fire, and now to scatter the fire—which


59 Lefebvre, “The Production of Space,” 140.
must be heard above the din, ‘A-a-b’la! A-a-b’la!’ ‘E-e-cha candela!’ ‘Pu-er-ta’, and the barbaric African chant and chorus of the gang at work filling the cane-troughs; —all these make the first visit at the sugar-house a strange experience. . . . If you wake up at night, you hear the ‘A-a-b’la! A-a-b’la!’ ‘E-e-cha! E-e-cha!’ of the caldron-men crying to the stokers, and the high, monotonous chant of the gangs filling the wagons or the trough, a short, improvised stave, and then the chorus; —not a tune, like the song of sailors at the tackle and falls, but a barbaric, tuneless intonation . . .

They work, like sailors, by watches, making the ‘night joint laborer with the day, and startling the stranger from his midnight sleep, with prolonged wailing cadences of their barbaric chants.

When describing the factories and the sugar-making process, travelers usually focused on the machines and their feats, rather than on the work or tasks performed by the slaves. However, they unanimously noticed the chants accompanying the slaves’ work and pervading the whole atmosphere. Through their vigorous voices, slaves were able to accentuate their presence, building an invisible force powerful enough to acoustically reign inside the spaces. The slaves, so downplayed by Eduardo Laplante’s lithographs (see figs. 2.1 – 2.2), reduced to ant figures overshadowed by the presence of machines, feature in every travelers’ account of their visits to the boiling houses, their songs dominating the visitors’ experiences of these spaces. I propose that slaves’ acoustic appropriation of the spaces seems the intangible counterpart to the planters’ construction of a visual experience, based on monumental façades and impressive lithographs (see chapter two).

The majority of slaves preserved the songs of their land, with their respective rhythms and languages, keeping their African cultural traditions alive.

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lyrics and tunes helped slaves to bear the heavy weight of their condition, venting sorrows and discontents and rejoicing in happy memories and moments.\textsuperscript{62} The songs were sometimes used to express discontent, make requests, or ask for justice. Bachiller y Morales explains that if the overseers were mean, the singers used significant words like “mayorá come gente” (mayoral eats people) or “mayorá so malo” (mayoral so mean), etc.\textsuperscript{63} Furthermore, songs also served to express gratitude and ask for petitions, especially when the masters were present, taking a form of negotiation and compromise. In the 1853 essay, “La casa de trapiche” (The Milling House), Suárez y Romero recounts an occasion when he visited the ingenio’s mill house:

I was standing with my back leaning on a quiebrahacha wooden post. I noted that the Negroes laughed with each other and their singing was noisy. An older Negro, a cane collector, whispered some words, and then the lads, men and women, burst into chorus. I paid attention and noticed that the words referred to me. That day the clothes and blankets had been distributed, that day I removed some shackles, that day I went to the kitchen to investigate how the meal was being done, that day I gave permission to celebrate some marriages and baptisms the next Sunday and to allow the playing of drums in the batey, in front of the casa de vivienda, from the hour of prayers until ten. These were the subjects of the chorus; the old Negro pointed to them and the young ones modified it whimsically. With the gratitude demonstrated, they added new petitions . . . I smiled listening to their sincere expressions of gratitude . . . There is no event of the sugar mills related somehow to the life of the Negroes that the songs do not refer to, happily or sadly.\textsuperscript{64}

Either to ask for petitions or just accompany their tasks, I consider African songs to be a dominant and important element in the experience of the Cuban sugar mill spaces. Furthermore, I suggest that dancing and playing drums were another assertion of African

\textsuperscript{62} Ortiz, \textit{Hampa afro-cubana: Los negros esclavos}, 240; Barcia, \textit{Seeds of Insurrection}, 118.


culture and another way to forge crucial bonds of racial solidarity, appropriating the plantation spaces to assert their power and presence. Dancing was the only slave entertainment permitted by the law.\textsuperscript{65} Dances in the sugar mills were usual, not only on Sundays and holidays but also on Saturday nights, when they sometimes lasted until the next day (see figs. 5.17 – 5.18).

Numerous traveler writers recount the stories of these celebrations, when slaves were “permitted to play on their drums or indulge in their national dances and other amusements . . .”\textsuperscript{66} In 1790, chapter four of the statement from Havana’s ingenio owners to the king recounts:

\begin{quote}
The entertainment blacks most prefer are the barbarous dances of their homelands. They dance to the strain of kettledrums (which are hollowed out tree trunks with dried cow leather stretched over one end), to small flutes fashioned from wild cane, and to marimbas made from several different types of wood joined together, played with wood implements in harmony. We never forbid dancing on holidays, during their rest periods, or at work. They dance just as much as they like. . . . And the truth is that if they are denied these activities, it will cause them unbearable anguish and there could be serious consequences.\textsuperscript{67}
\end{quote}

According to most traveler writers, these dances were most commonly performed in the batey (see fig. 5.18). Ernest Duvergier de Hauranne writing about Las Cañas ingenio, which belonged to Don Juan Poey, recounts:

\textsuperscript{65} Since 1789, article four (\textit{Diversiones}) of the \textit{Royal Decree} established that on religious holidays slaves must “amuse themselves in simple and harmless pursuits.”\textit{Real Cédula e Instrucción Circular a Indias, sobre la Educación, Trato y Ocupación de los Esclavos} [Royal decree and instructional circular for the Indies on the education, treatment, and work regimen of slaves], May 31, 1789, in Ortiz, \textit{Hampa afro-cubana: Los negros esclavos}, 451. Translation mine.

On July 4, 1839, the Captain General of Cuba, Ezpedeta, dictated a memo establishing that slaves must be allowed in the plantations to dance in the way of their country on the holidays afternoons until early night, under the supervision of mayorales, their dances known as \textit{de tambores} (of drums). Ortiz, \textit{Hampa afro-cubana: Los negros esclavos}, 229-230.


\textsuperscript{66} Wurdermann, \textit{Notes on Cuba}, 260.

\textsuperscript{67} “Statement from Havana’s ingenio owners to the King,” Havana, January 19, 1790, Archivo Nacional de Cuba (ANC), Junta de Fomento, 150/7405, in Garcia Rodriguez, \textit{Voices of the Enslaved}, 65.
C... told me that on holidays it seems that there is a carnival dance in the batey: feather hats, silk belts, glass necklaces, chiffon dresses and shawls, blue suits with golden bottoms, all of which substitute, as by magic, the rags of the day before.68 (see fig. 5.19)

Similarly, Pérez de la Riva’s account on the celebration of the zafra, establishes the importance of the batey for the slaves’ celebrations:

In the life of the ingenios, the date of the beginning of the zafra was an important one... The stipulated date there was a celebration in the batey, where slaves danced at the rhythm of their drums, their primitive and barbarian dances, antecedents of the current rumba, until late at night... In this celebration everybody had a good time, the owners in the main house... and the slaves in the batey... 69

Due to its openness and centrality, the batey constituted an element of connection and binding. According to Pérez de la Riva, slaves were bound to the batey. They were summoned there, five times a day, at the beginning and end of a labor day, for prayers, punishments, and so on; and there they performed most of the outside activities (collection and moving of carts, cane, bagasse, etc.). A space mostly designed for productive activities, the batey was completely transformed by the sound of the drums and the fury of the African dances. By restoring the batey’s original Taíno function—a place of rejoicing and recreation, where Indians performed areitos (chants and dances) and played the ball game—the slaves erased any negative connotation and any sign of forced labor, taking over the space through the reassurance of their culture and through the wrath of their African dances, which had the power to erase every misery and painful memory. Authors continuously mention how the slaves got lost in their dances, and their capacity, even when extremely tired after a long day of work, to


69 Pérez de la Riva, La habitación rural en Cuba, 94-95. Translation mine.
dance furiously for hours. Anselmo Suárez left a vivid description of a dance in his article “Ingenios,” from 1840:

Two young Negroes took the drums, and . . . they began to call, while the others started a fire on the ground with dry hay . . . At the sound, the watchmen from here and there, the house servants, the criollitos, all of them got together in the clearing . . . The Negroes surrounded the players, but two danced alone in the middle, a Negro and a Negra; the others joined clapping and repeating the chorus of the songs sang by two elders. And what pirouettes the dancers made? Always according to the movements of the drums rhythms, now they make circles, the head to one side, moving the arms, the woman after the man, the man after the woman; now dancing one in front of the other; now getting closer; now running away from each other; now making a fast turn on one foot, and then standing in front of each other, they open their arms, extend them, and jump taking the belly out . . . What a commotion, what uproar, my friend! I have said that only two dance in the center, but who contains the Negroes and the criollos with whom they live when they hear drums? That’s how, in order to jump, they leave the row, and separate from the others like crazy, completely fulfilling their desire, until soaked in sweat and shiny as if they were varnished, and gasping, almost without breath, they got again into the row. (see figs. 5.17 and 5.18)

For these occasions, the bell no longer congregated the slaves; they no longer formed a row to receive their food ration or the direction for the day. Now, the sound of the drums called them, and the music resounded throughout the property. The sensual movements of their bodies liberated them, and according to Suárez, “they cannot be contained,” and they jump out of the row, “completely fulfilling their desire.” At this moment, the slaves own the batey, and the sound of the drums overshadows the presence of monumental architecture or high towers, becoming the new acoustic reference (instead of visual) of the sugar mill. These sounds were heard for many square miles, and they were often meant to reach fellow slaves of nearby plantations.

70 Ortiz, Los negros brujos, 68-69.

Slaves danced not only to celebrate special fiestas such as the Holy Week and Corpus Christi, but also to celebrate baptisms, marriages, funerals, religious rituals, and even for battle. On many occasions, dancing, just like singing, constituted acts of resistance circumspectly performed before the eyes of the masters and overseers.72 According to Manuel Barcia, it is highly likely that many of the slaves’ song lyrics, their dance gestures, and the sacred and profane language of their drums were conceived and performed with the intention of resisting the rules or manifesting their discontent and unrest.73 The violent nature of some African dances bordered the line between festivity and rebellion. For example, in the African dance called “de congos,” usually performed during the religious celebration of the Epiphany and other festivities, the slaves performed a kind of battle and wore characteristic suits called “traje de Niengo,” which consisted of a belt with hanging leaves of dry palm and a hairstyle of only one upright lock of hair, which were also worn in every slave rebellion (see fig. 5.20).74

**Contested Use of Spaces: From Secret Gatherings to Open Rebellion**

As seen so far, architectural spaces possess important acoustic properties, and we can measure a space through the ear. In the same manner, the sounds, singing, and voices reverberate and breathe new life into interior spaces, just as “A reading voice breathes new life into a written text,” in Henri Lefebvre’s words.75 The sugar mill’s open spaces (either interior

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74 Ortiz, *Los negros brujos*, 74.

75 Lefebvre, “The Production of Space,” 143.
or exterior ones) permitted a continual back and forth between the private speech of ordinary conversations, the ordinances of overseers, and the sounds of machines.

Slaves took advantage of any moment of privacy to speak freely, voicing their ideas and complaints, spreading rumors, and gossiping. Furthermore, since secrecy was essential for a conspiracy to succeed, slaves plotted secretly, often in African languages unknown to their overseers and masters. In legal testimonies, slaves frequently referred to their conversations in the barracks or bohíos, in the cane fields and factories, where the solitude of the huts, the hugeness of the fields, or the noise of the factories allowed them to have moments of furtiveness and retirement.

In the deposition of Matías Gangá, a slave of the sugar mill Santa Ana de Jaspe, he told the prosecutor Felipe Arango that “when they were grinding sugar cane, he and his comrades used to complain a lot in their own language about the punishments they were frequently receiving.” In his statement about the rebellion of the ingenio El Triunvirato, in Matanzas in 1843, Nicolás Gangá also mentioned the different places where they met to plan the rebellion:

. . . planning for the rebellion began some two months ago . . . [the meetings] were in different places, sometimes in the huts, other times in the cane fields, sometimes in the sugar mill, and sometimes in the very fields where they were working.

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76 “Apart from exceptional cases, plantation owners and employees barely knew any words of the African languages their slaves spoke . . . . Conversations –often in African language– were undoubtedly the most frequent and potentially dangerous form of everyday resistance among slaves.” Barcia, *Seeds of Insurrection*, 115.


79 “Statement of Nicolás Gangá, over twenty-five, carter, field hand at the ingenio,” Santa Ana, Matanzas, November 5, 1843, ANC, Comisión Militar, 30/3, quoted in García Rodriguez, *Voices of the Enslaved*, 182-183.
On some occasions, slaves from different estates communicated through the sounds of the drums (see fig. 5.21). When planning the Triunvirato rebellion in 1843 in Matanzas, slaves of the Ácana and Triunvirato sugar mills “communicated through drums . . . due to the proximities between both sugar mills.” Furthermore, on June 21, 1843, the governor of Cienfuegos asked the Captain General of the island to prohibit the slaves’ use of drums, in order to prevent them from using the sounds they made to congregate or meet. Although the use of music was not prohibited, this petition illustrates the danger behind seemingly innocent acts of entertainment.

The contested use of the plantation spaces began when the slaves plotted and conspired against their owners, taking advantage of the vast, open, and noisy areas of the estate, but it was really perfected in the course of the rebellion per se, when they took control of architectural spaces, although momentarily, completely inverting their original purpose and meaning. In each uprising the same performance was usually enacted: the leader called to attention all the slave crew (usually from the bell post of the batey); and afterwards they all marched to the rhythm of the drums, singing, flying colored flags, wearing curious costumes, carrying all sorts of weapons (from leather shields, rocks, spears, bows and arrows, to knives, machetes, and guns), destroying and plundering everything they encountered (see figs. 5.23 – 5.25).

The batey or the proximities to the bell post were usually the starting and gathering point par excellence, just as for the holiday dances. As the center of the estate, the batey was not only fit for leisure activities but also for defiant ones. When analyzing the city centers,

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80 The Triunvirato sugar mill was located in Santa Ana-Cidra, and belonged to Julián Luis Alfonso Soler. This rebellion included women and children, and was led by the lucumíes Eduardo, Carlota, Narciso, and Felipe, and the gangá Manuel from the Triunvirato. The lucumíes from the Acana sugar mill, Fermina and Evaristo, also participated in the preparations. Alberto Perret Ballester, *El azúcar en Matanzas y sus dueños en La Habana: Apuntes e iconografía* (Havana: Editorial de Ciencias Sociales, 2007), 278-279. Translation mine.

Roland Barthes establishes an analogy, saying that this space is usually felt as “the place of exchange of social activities, and I would almost say erotic activities in the broad sense of the word. Better still, the city centre is always felt as the space where subversive forces, forces of rupture, ludic forces act and meet.” 82 This intrinsic relation between ludic forces and subversive forces is manifested in the slaves’ uses of the sugar mill’s batey.

Regarding the Triunvirato rebellion, Manuel Gangá’s statement recalls that when the slave crew of the Triunvirato arrived at the Ácana sugar mill (2½ km to the south), the slaves “gathered around the bell post, [and] the slave Cristóbal Lucumí made an appeal to all the slaves there on that farm to come and join forces with them...” 83 Additionally, recounting the uprising in the Alcancia sugar mill, in which 254 slaves rose up on March 27, 1843, a British reporter stated that during the uprising the slaves beat their drums and showed their skills in warfare, moving “in military order, clad in their festival clothes, with colors flying, and holding leathern shields.” 84

According to Manuel Barcia, singing, dancing, and drumming played an important role in some of the most important and largest revolts of the period, such as in the revolt of


83 “Statement of Manuel Gangá,” Santa Ana, Matanzas, November 5, 1843, ANC, Comisión Militar, 30/3, in García Rodríguez, Voices of the Enslaved, 183.

84 British and Foreign Anti-Slavery Reporter, 31 May 1843, 82, quoted in Barcia, Seeds of Insurrection, 40. The Alcancia ingenio located in Carlos Rojas belonged to Dr. Joaquín Peñalver, the Count of San Fernando. In this revolt, the slaves were able to reunite 300 men, armed with machetes, who went to the ingenios of La Luisa, La Trinidad, Las Nieves, and La Aurora. Perret Ballester, El azúcar en Matanzas y sus dueños en La Habana, 278.

“Costumes were symbols of power and leadership. Sometimes they were stolen from the owners after an uprising had begun. During the rebellion of 1825 in Guamácaro, Cayetano Gangá stole and wore a green jacket like those used by the lieutenants of the Spanish regular army.” Barcia, Seeds of Insurrection, 43.
Guamácaro in June 1825, the uprising of the Alcancia ingenio in March 1843, and the Triunvirirato rebellion in November 1843.⁸⁵ Along with the drumming, the “Ho-Bé” and the “Oní Oré Ofé” songs for assembly and warfare were also common in African-led slave revolts.⁸⁶ Empowered by their colorful costumes, usually stolen from the plantation house, the sound of the drums, and the cadence of the songs’ rhythms, the slaves took control of the batey and proceeded to destroy the buildings of their own plantation and those of the vicinity.

**The Annihilation of Architecture: A Common Language of Expressive Violence**

Overall, the most emphatic form of slave resistance was the open rebellion. Franklin Knight states that “servility bred revolt” and “men subordinated to hostile overseers reacted with hostility themselves.”⁸⁷ In Cuba, an extraordinary sequence of slave revolts erupted between 1795 and 1844, in which the year of 1843 turned out to be the most dangerous for the Cuban authorities and the whites that lived on the western and central part of the island.⁸⁸ According to Manuel Barcia, “between March and November (of 1843), some of the biggest uprising ever seen in the New World unfolded in the plantation area around Matanzas and

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⁸⁶ Barcia, *Seeds of Insurrection*, 44.

⁸⁷ Knight, *Slave Society in Cuba*, 81.

⁸⁸ The conspiracy known as La Escalera, of 1844 is considered the end point of the longest cycle of slave revolts ever witnessed in the Americas. This uprising attempt unleashed the cruelest repression on the part of the Spanish authorities, and after La Escalera almost all conspiracies and rebellions ceased. For more details on this conspiracy see Robert L. Paquette, *Sugar is Made with Blood: The Conspiracy of La Escalera and the Conflict between Empires over Slavery in Cuba* (Middletown: Wesleyan University Press, 1988); Barcia, *Seeds of Insurrection*, 27-28, 40; Perret Ballester, *El azúcar en Matanzas y sus dueños en La Habana*, 279-282.
Cárdenas." He argues that African-born slaves who had recently arrived on the island led most of these revolts, and their familiarity with war was repeatedly mentioned in the records. According to Cuban scholars, most of the slave rebellions constituted spontaneous outbreaks, the result of a strong, long repressed impulsiveness that led slaves to a violent eruption, destroying the property and killing whites. Usually, there was no plan, no leaders, no weapons, or any efficient mechanisms of defense, which resulted in immediate repression and ill-fated results. However, in each rebellion a similar display of expressive and symbolic violence was enacted, in which angry crowds performed a loud, theatrical, and ritualized destruction of buildings. The rebellion usually started in one sugar mill, and after destroying the place, they went to neighboring plantations, calling the slaves to join them.

In the Aponte rebellion of January 1812, for example, insurgents burned the ingenios of Trinidad, Peñas Altas, Habana, Bolois, La Viuda, and San Juan de Dios. Similarly, in the uprising of the Alcancía ingenio in 1843 slaves armed with machetes went over to the La Luisa, La Trinidad, Las Nieves, and La Aurora sugar mills, setting fire to all these neighboring plantations (see fig. 5.24).

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89 Barcia, Seeds of Insurrection, 40.

90 Most of the revolts of the 1820s, 1830s and 1840s had strong Lucumi presence, but Gangá and Carabalí slaves also were common. Barcia argues that African-born slaves (especially Lucumi, Gangá and Carabalí) carried out most of the revolts and the murder of their owners and other authority figures. Barcia, Seeds of Insurrection, 31, 35-36, 41.

91 Ortiz, Hampa afro-cubana: Los negros esclavos, 435; Knight, Slave Society in Cuba, 81.

92 José Antonio Aponte was a free black that directed the second largest slave conspiracy in Cuba. Most of the slaves of the Trinidad and Peñas Altas ingenios rose up. Perret Ballester, El azúcar en Matanzas y sus dueños en La Habana, 277; Ortiz, Hampa afro-cubana: Los negros esclavos, 430-431; Barcia, Seeds of Insurrection, 29.

93 “The Lucumís rebels set fire to buildings on some neighboring plantations, damaged the railroad works between Júcaro and Matanzas, and killed at least five whites before being defeated by the Spanish Army. . . . Around 450 slaves perished, either by being shot or executed or committing suicide.
The fires and attacks usually concentrated on the factories and the *casa de vivienda*. In the case of the factories, vital organs of the sugar mill, their destruction implied the annihilation of the production and the suspension of works, sometimes even the economic ruin of the owner. In every case, fire and attacks against architectural structures were meant to bring chaos, death, and devastation, destabilizing the established system of power. Albeit temporarily, the planters lost their ordered and hierarchical possessions to the hands of slaves, their African drums, and devastating torches (see figs. 5.23-5.25).

Certainly, in the course of a rebellion, the destruction of the place can be regarded as a “success.” As Nicholas Adams argues, the destruction of architecture is usually sustained by the thought that if the buildings that maintain a social class are removed, then the people themselves will die or suffer, or lose their privileges and fortune. The elimination of architecture thus entails the elimination of a social class or an economic system, symbolizing a crack in the established schema, a crisis.

In the uprising of the ingenio Arratía in Pedro Betancourt on July 22, 1842, 42 lucumíes slaves “armed with rocks, sticks, and torches . . . burned down one of the plantation’s main buildings and briefly took control of the estate.” After six of them were wounded and apprehended, the rest began to disperse into the cane fields and set fire to the ingenio’s tile works and bohíos. In the Triunvirato rebellion, a similar pattern unfolded: on November 5, collectively.” Barcia, *Seeds of Insurrection*, 40. See also Perret Ballester, *El azúcar en Matanzas y sus dueños en La Habana*, 278; Ely, *Cuando reinaba su majestad el azúcar*, 496-97.


96 García Rodríguez, *Voices of the Enslaved*, 133; Perret Ballester, *El azúcar en Matanzas y sus dueños en La Habana*, 277.
1843, all the slaves of the ingenio rose up, injured the mayoral and burned the casa de vivienda, part of the mill, and some bohíos in the batey. Then, they went to the Acana sugar mill, 2½ km to the south, where they set fire to the big house and the huts, saying, “Because those inside the huts did not want to join, we are burning their pigsties.” Then they advanced to the ingenios Concepción and San Miguel in Guardia, where they caused some destruction, but did not get the support of the slave crew. From there, they continued to San Lorenzo 2 km to the northwest, property of José Luis Alfonso, and burned the mill. The rebellion started at 8:15 in the evening, and by 6:00 in the morning, 300 rebels entered victorious in the San Rafael sugar mill of Felipe Mena, where they were finally defeated by the troops of the brigadier García Oña (see fig. 5.23).

The burning of the bohíos was not uncommon in Cuban slave rebellions. Not only were they the most incendiary prone structure on the sugar mill complex due to their thatched roofs, but their destruction constituted a powerful statement of the slaves’ confidence that there was no turning back, and they would either die in battle, be executed after capture, as most commonly happened, or commit mass suicide before returning to captivity.

Destruction by fire was not only employed during uprisings. Intentional fires were, in fact, the most feared and costly form of sabotage. They were regular occurrences throughout the first half of the nineteenth century, in which slaves usually managed to conceal the source of the blaze while critically damaging their owners’ property. Manuel Barcia presents many

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97 “Statement of Manuel Gangá,” in García Rodríguez, *Voices of the Enslaved*, 183.


99 The burning of bohíos characterized the mutinies of May 1843 in Santa Rosa sugar mill of Domingo Aldama and Majagua sugar mill of Gonzalo Alfonso Soler, both in Unión de Reyes. The slaves rebelled due to the mayorales’ abuses.
cases of induced fires recorded by the colonial authorities, which had dreadful consequences for both the perpetrators and the owners, who lost crops and buildings in the process. In May 13, 1844, for example, “the slaves of Santísima Trinidad chose to respond to the horrendous treatment they were receiving by destroying Oviedo’s property,” and set fired to the sugar chaff and wood storage warehouses of this sugar mill owned by Esteban Santa Cruz de Oviedo. In 1839, another case recorded that the slaves from the sugar mill Ingenio Viejo started a massive fire in their own huts. The plantation owner, Juan de Dios Casañas, witnessed the slaves carefully emptying their huts in anticipation, “a fact that indicates that they were all in concert.”

In short, the destruction of architectural structures was the most effective way for slaves to contest Creole power and enact their manipulation of forms and spaces. I propose that by erasing the buildings conceived to confine and subject them, the slaves not only plunged their master into economic ruin, but also destroyed their own context of subjugation. These actions did not secure their freedom, but it brought disorder and destruction to the rigorously calculated and ordered sites. Even if only for several hours or a whole day, the order, the productiveness, and above all the peaceful silence so carefully rendered in Eduardo Laplante’s views and so proudly showcased by the planters was replaced by the furious sounds of the drums, the violent chants, the colorful costumes, and the overwhelming fire. Although not corresponding to a slave uprising but rather a posterior independence army attack, figure 5.25 does illustrate the chaos and destruction brought by fires and outbreaks.


Conclusion

As part of their struggle against oppression, African slaves developed what James A. Delle calls “spatialities of resistance,” asserting their presence within the plantation realm by carving out spaces where they could enjoy some privacy, plot against their owners, or keep alive their traditions, religions, and customs.

The African slaves’ relation to the landscape and their conception of architecture was significantly different from the cognitive models espoused by the planter class. As I have demonstrated throughout this chapter, the slaves’ territorial system depended on a close connection to the land, and embraced what can be considered chaos, improvisation, and irregularity. This is manifest in the winding and intricate paths, shortcuts, and hidden spaces developed by the slaves in the hinterlands of the plantation. By rejecting the open, ordered, and hierarchical environments of the white owners, the slaves developed a more disguised and meandering interaction with the landscape, in which concealment replaced the sugar mill’s visibility, and irregularity replaced Cartesian geometry. Irregularity and concealment granted protection and allowed a transient freedom, even if only for a time.

Concealment and secrecy was an intrinsic part of the slaves’ lives and resistance, and it determined their use and appropriation of architectural spaces, especially to carry out forbidden acts like the worship of their orishas or the planning of a conspiracy. However, it was wide in the open, in the batey, or in the huge factories where the African chants and dances constituted the best way for the slaves to assert their identity, to feel empowered by the group, and to take control of spaces otherwise reserved for productive or punitive activities.

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In both cases, I believe that slaves appropriated spaces differently from their white masters. Instead of sending visual messages their presence was affirmed through chants, dances, and the sound of the drums. In addition, in the act of appropriating the architectural structures, slaves obliterated the functional distinctions so importantly demarcated by the planters, assigning completely new meanings and uses to architectural spaces. The bohíos, for example, meant to sleep and eat in confinement, became personal spaces to store grains and animals or to keep religious rituals alive; the batey became a place for dancing or gathering a defiant mass; the factories developed spots to secretly plan a conspiracy; and the perfectly divided cane fields were filled with a web of indiscernible pathways leading to freedom. No longer was there a fixed location for a certain function, but rather ephemeral and spontaneous uses assigned to otherwise stable and monumental forms.

Despite the planters’ efforts to isolate the enslaved population, eliminating any human relation among them, the solidarity and the sense of community was progressively born through shared oppression, clandestine meetings and the enactment of common cultural values. With a built group confidence, they were able to conspire and rebel against their oppressors, destroying, plundering and burning the same architectural landscape so carefully planned by the Creole owners to subjugate them.
CONCLUSION

Cuban Sugar Mill Architecture: A Mosaic of Assimilated Influences

As with any Caribbean island, Cuba was part of a heterogeneous archipelago subjected to crisscrossing influences and constant movements of people, products, and cultures. First populated by the indigenous Taíno people, it was subsequently conquered by Spain, with a brief occupation by the British. By the eighteenth century, Cuba welcomed numerous planters who emigrated from Haiti as well as many Americans who decided to trade with the island. But most importantly, by the early nineteenth century the massive importation of African slaves changed Cuba’s population and demography. This assortment of cultures, languages, memories, and influences formed Cuba’s identity over the centuries, and it was in the spaces and architecture of the sugar mills that it became particularly manifested.

The Cuban planters were cosmopolite impresarios who were in contact with foreign trends and styles. However, in their sugar mills, they did not import any specific architectural trend, but rather rescued and merged former models, allowing for diversity and hybridity. Through my research, I have identified three main trends affecting and distinguishing the architecture of the Cuban sugar mill: the Spanish heritage; contemporary Enlightenment ideals with their allure for modern industry; and indigenous Taíno architecture in the form of bohíos, adapted and transformed by African slaves. Every trend and influence was adapted and transformed to fit the particularities of the local landscape, climate, crafts and materials, while showing a reverence for the homeland and its treasures that, as I have argued, resulted in a vernacular language and response.

The Spanish heritage, more than a fashionable trend, was a well-rooted tradition of
creating architecture with masonry walls, arched porticos, closed (often white) lateral façades, and symbolic elements such as *portadas* and towers, the whole imbued by a sense of order, regularity and geometry, with strict social and racial demarcations. This type of architecture characterized every urban plan and civic building developed by the Spanish monarchy in Cuba and the rest of the colonies from the early sixteenth century onward. It also distinguished the architecture of Spanish (Andalusian) seventeenth and eighteenth century haciendas and *cortijos* (plantation architecture of Spain). Scholars have argued that this architecture, implemented by Spanish colonizers since the beginnings of the conquest, was meant to communicate political power and social superiority to the indigenous population, a discourse and language that, I propose, fit the Creole aristocracy’s own agenda and their need to subjugate the African slaves while asserting their own social, intellectual, and economic superiority. The Spanish heritage is most clearly visible in the sugar mills’ geometrically ordered layouts, in the use of portadas, towers and arcades, and in the clearly differentiated racial hierarchies characterizing the architecture of the entire complex, as demonstrated in chapter one. Nevertheless, Spanish influence also pervades the sugar mill’s *casa de vivienda*, analyzed in chapter four, whose floor plan and spatial distribution grew out of the sixteenth century colonial patio house (city palaces), rescuing many of its decorative details, such as the *Mudéjar* style ceilings and the fanlight *vitrales*, the arcaded porticos, among others.

The French Enlightenment, with its Neoclassical inclination, is particularly noticeable in the monumental and ceremonial landscape of Cuban sugar mills, with broad boulevards, marked axis, and big open spaces. Nevertheless, it was the pragmatism, rationalism, and technological fascination of Enlightenment thought that, in my opinion, particularly marked the design and spaces of the Cuban sugar mill. First of all, the specially designed architecture
meant to accommodate sophisticated machineries and sugar-production processes became a statement of scientific knowledge and industrial know how, notable not only in the architecture of the factories but also in Eduardo Laplante’s illustrations for the book *Los ingenios* (examined in chapter two). On the other hand, the Creoles’ “enlightened” and rational spirit surfaced in the implementation of a system of power based on surveillance and visibility, clockwork regularity of time, and ideals of segregation and classification, hygiene, natural illumination and ventilation, all of which modeled the architecture of the entire complex as well as that of individual buildings, such as the slave barracks, nurseries, and infirmaries analyzed in chapter three.

Lastly, the indigenous *bohío*, the most important architectural Taíno element, was perpetuated in the slave villages, with similar forms and materials, but also assimilated African contributions such as the porch, the embarrado walls, and the introduction of the kitchen, grains and animals in the interior of the house, as analyzed in chapter four.

Finally, I propose that the hallmark of the Cuban sugar mill architecture is its tropical nature, and the way it responded to the hot climate, strong breezes, exuberant flora, and the manner of living of the local people. Due to the powerful sun and heat, the architecture is conceived for a life in the outdoors with protection from the sun and rain. Since its conception, the Cuban sugar mill was not confined to a single building (as in the Spanish hacienda, a model imported to many countries of Latin America that was organized around one to three interior patios); rather, it was composed of different independent structures scattered through the site and connected through huge open spaces (*bateyes*). In this schema, daily activities often took place in outside spaces, and the buildings became a background canvas for a perfectly laid out garden or a frontal, flat ground. In addition, buildings also became open sheds housing
machines and offering “occasional” shelter from sun and rain. Along with this predominance of open spaces, the numerous galleries, the wide eaves, and the broad openings also guaranteed a direct communion with the exterior, becoming transitional spaces wavering between the outside and the inside. In addition, the wooden shutters, balustrades, and blinds, as well as the French-slatted windows were meant to protect the interior spaces from the rigors of heat and sunlight, while guaranteeing light and ventilation.

The architecture of nineteenth-century Cuban sugar mills is particularly unique because of its craft and local materials, which, along with the melding of different influences and cultures and the adaptation to the local context, granted a distinctly Cuban flavor to the whole complex. African and mulatto artisans and builders added their own contributions through the incorporation of traditional designs and decorative elements, such as the vitrales, guardapolvos, urns, wooden shutters, French-slatted windows, coffered ceilings, and mural paintings described in chapter four.

The combination of indigenous bohíos, arcaded porticos, monumental towers, and beautiful portadas resembling Spanish architecture, and monumental factories glorifying the sugar industry and its sophisticated machinery was unified through open spaces and straight roads radiating into the surrounding cane fields. The mosaic of historically distant influences and geographically detached cultures was thus united, fitted to the climate and landscape, and adapted to the local materials and ways of life, resulting in a totally new and original architectural manifestation of Cuban roots. The Cuban sugar mill architecture not only synthetized different architectural currents, but also framed the intermingling of different cultures, beliefs, languages, habits, and social structures, as has been recognized in the analysis of daily life and work in its spaces.
Creole Planters’ Manipulation of Architecture

Throughout this dissertation I have argued that Cuban sugar planters used the sugar mill’s architecture as a form of power with various ends. In chapter one I established the way in which Creoles manipulated the sugar mills’ layout and architecture to legitimate their social and economic position within Cuba, while in chapter two I demonstrated how it was used to communicate their intellectual and technological achievement. Chapter three evidenced the manipulation of architecture to enforce slavery, while chapter four explored the consolidation of a group identity by the development of an essentially Cuban architecture rooted in traditional forms intrinsically related to the homeland and the landscape.

According to Umberto Eco in his book Function and Sign: the Semiotics of Architecture, the most basic and fundamental meaning of architecture resides in its capacity to denote and provoke a “form of inhabitation.” The form, accesses, and openings of a building indicate a level of freedom; doors and hallways direct circulation; while interior or exterior spaces and furniture suggest functions and uses. I propose that Creole planters took advantage of every architectural element, including location, floor plans, decoration, and façades of all structures within the site, to implicitly convey to the slaves the necessary instructions of what to do in each building, promoting and inducing certain conducts and behaviors. This is nowhere more evident than in the design of the slave barracks, with their controlled entrance, their tiny, individual cells with only one door opening to the hallway, which surrounded a deceptively open courtyard. The architecture became a form of control, isolation and subjugation that not only signified the function, but also promoted and induced it, being “psychologically

persuasive . . . with a gentle hand.”

The second level of meaning is communicated through visual codes in the overall forms, façades, and decorative elements, which usually “connote an overall ideology that has informed the architect’s operation.” Umberto Eco argues that in order to communicate, architecture has to be based on codes, and these codes usually function as a “system of rhetorical formulas and already produced message-solutions.” The architect thus implements “already worked-out solutions” and plays upon elements already codified and “yielding standardized messages.” This is, I argue, the case of Cuban planters’ incorporation of Spanish elements and architectural ideals in order to call upon pre-existing codes deeply rooted in the local society after centuries of implementation. The Spanish architecture and urbanism of conquest, imposed throughout its colonies, became particularly strong at communicating ideas of political supremacy and social power. Thus, to draw upon its accepted premises and well-known or readily acceptable arguments was a secure way for Creole planters to communicate their social supremacy (over slaves) and their economic power (over Peninsulares). Masonry, white walls, arcaded porticos, monumental towers, and portadas were elements already embedded with strong messages of racial and social power, which when combined with bohíos made of thatched roofs and wooden walls constructed a strictly hierarchical structure that in Umberto Eco’s words was “something that may be taken for granted, something that one would

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2 Eco, “Function and Sign,” 196.
3 Eco, “Function and Sign,” 185, 197.
4 Eco, “Function and Sign,” 194.
5 Eco, “Function and Sign,” 195.
Resting upon well-known and deeply rooted codes, architectural forms can also become a kind of popular culture, confirming and representing certain widely subscribed attitudes and ways of life. In the Cuban sugar mill, for example, the floor plan of the *casa de vivienda* stems from a traditional Caribbean unit that has already been tested and approved in numerous islands throughout several centuries. It denotes a way of life in the tropics —lives mostly spend in galleries, admiring the gardens or enjoying the weather in wooden rocking chairs. In Eco’s words, it is “something we are already familiar with, and the differences involved only represent a welcome improvement or variation of some kind.”

In the end, architecture’s communicative capacity has the power to become a form of mass culture, encapsulating in its image and spaces the essence of a country, or at least the ideology or message they want to export. In the case of Eduardo Laplante’s lithographs of Cuban nineteenth-century sugar mills, the idealized images became an allegory of the order, progress, and modernity of the Cuban people and their industrial enterprises.

**African Resistance and the Power of Bonds**

In his book *Buildings and Power*, Thomas A. Markus argues that there are two types of social relations: those of power and those of bonds. According to the author, “people can always form bond relations, subverting even the most oppressive institutions and their buildings.” These bond relations tie people by a unity of interest, a cultural affinity, or a shared

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6 Eco, “Function and Sign,” 197.

7 Eco, “Function and Sign,” 196.

struggle for justice, as with the Afro-Cuban slaves.\textsuperscript{9} When they generated bonds, they liberated themselves, at least temporarily from the planters’ yoke. This is the case of the shared leisure moments, when slaves danced, sang, or performed religious rituals, which can be considered “an escape from the reality of powerlessness, or an assertion of the alternative power of the crowd,” in Markus’ words.\textsuperscript{10}

Even though the slaves’ resistance was rarely manifested in the built environment and almost never took material form, it nonetheless affected the meaning of buildings by reversing the architecture’s primal intention. According to Umberto Eco, “architecture fluctuates between being rather coercive, implying that you will live in such and such a way with it, and rather indifferent, letting you use it as you see fit.”\textsuperscript{11} Thus, I propose that when slaves assigned new uses to architectural spaces, different from the ones intended by the owner and demanded by the building, they not only resisted Creole power but also assigned a new signification and reality to buildings.

\textbf{Conceived, Perceived, and Lived Spaces}

In his book \textit{The Production of Space}, Henri Lefebvre recognized three main aspects of spatiality: the perceived, the conceived, and the lived spaces. These three aspects have surfaced during the course of this investigation, shaping the argument and the overall architectural analysis. In nineteenth-century Cuba, Creole planters conceived the sugar mills’ overall architecture and spaces, African slaves lived in them, and travelers and visitors perceived them.

\textsuperscript{9} Markus, \textit{Buildings & Power}, 25.

\textsuperscript{10} Markus, \textit{Buildings & Power}, 157.

\textsuperscript{11} Eco, “Function and Sign,” 196.
The perception of the Cuban sugar mills’ architecture is still possible through the few ruins left, but today mostly through the lithographs made by Eduardo Laplante in 1857.

According to Lefebvre, the “conceived space” is objective, geometrical, and visual, and based on knowledge, divisions, and classifications; it is also quantifiable, profitable, realistic, and communicable through images.¹² It is the space of the architect, reduced to blueprints, to mere images:

This space has nothing innocent about it: it answers to particular tactics and strategies; it is, quite simply, the space of the dominant mode of production, and hence the space of capitalism, governed by the bourgeoisie. It consists of ‘lots’ and is organized in a repressive manner as a function of the important features of the locality.¹³

In Cuban sugar mills, I have argued that Creole planters devised the “conceived space” with a three-fold aim: to serve the sugar economy and industrial mode of production, to subject the slaves, and to assert their own social power. This conception is based on neat, geometrically ordered layouts, organized through demarcated centers, right angles and straight lines, and implementing rigorous divisions of labor, sex, and function. In addition, this conceived space is mostly visual, based on images of architectural monumentality through external and formal elements like arcades, masonry walls, and portadas. All these elements are parts of façades, which were always a Western “measure of social standing and prestige.”¹⁴ Lastly, this conceived space is projected through images, Laplante’s images, in which the artist intelligently codifies, through artistic metaphors and resources, the intended message: that of the power of Creole owners.


¹³ Lefebvre, “The Production of Space,” 144.

¹⁴ Lefebvre, “The Production of Space,” 144.
I consider the forms and spaces narrated in traveler accounts and diaries as the “perceived spaces.” Visitors to the mills did not conceive the architecture and did not live in it; their experience was thus temporary. Welcomed as they were by the Creole planters, their perception was clearly influenced by them and their original intentions and projected messages. Nevertheless, the travelers’ experiences of the spaces communicated through verbal descriptions have the capacity, otherwise denied to two-dimensional images, floor plans or façades, to grasp the multi-sensorial understanding, complete with noises, odors, materials, actions, joys, and sorrows of inhabitants. In Lefebvre’s words, “visitors are bound to become aware of their own footsteps, and listen to the noises, the singing [they must even breathe the sugar-filled air] . . . they will contemplate and decipher the symbols around them; and they will thus, on the basis of their own bodies, experience a total being in total space.”

There is a public meaning of spaces and a private one. The public is showcased to the world, through lithographs, grand façades, and architectural decorative elements. In the sugar mills, the private meaning was lived by slaves, in the interior spaces. According to Lefebvre, the “lived space” is the social space of users and inhabitants. He declares,

The user’s space is lived—not represented (or conceived). When compared with the abstract space of the experts (architects, urbanists, planners), the space of the everyday activities of users is a concrete one, which is to say, subjective. As a space of ‘subjects’ rather than of calculations. . . . It is in this space that the ‘private’ realm asserts itself, albeit more or less vigorously, and always in a conflictual way, against the public one.

I have dedicated the fifth chapter of this dissertation to the analysis of the “lived spaces,” and a significant shift is noticeable: the inhabitants (slaves) rather than the Creoles are

15 Lefebvre, “The Production of Space,” 139.

16 Lefebvre, “The Production of Space,” 145.
now the protagonists, and their actions, always performed in voids or open spaces, overshadow the previous predominance of buildings, façades, and images of previous chapters. In the last chapter, the analysis is no longer about the image of architecture but about the experience of architecture, and as such there are no tangible or visual objects, but rather sensorial experiences, mostly preserved through narratives and descriptive writings.

According to Lefebvre, in order to capture the lived experience we have to give attention to the body. “The restoration of the body means, first and foremost, the restoration of the sensory-sensual —of speech, of the voice, of smell, of hearing. In short, of the non-visual.”¹⁷ I propose that the slaves’ acoustic, gestural, and ritual appropriations of the sugar mills’ spaces opened new interpretations and chains of meanings to those previously intended by the owner. Through their bodily experiences, slaves were able to partake of the previous established codes and ideologies to plunge into their own particular world, a world of redemption, bonds, and shared memories. The fifth chapter thus analyzes those “moments” of ephemeral action, in which vacant, empty spaces are appropriated with a fleeting, movable, semi-fixed meaning.¹⁸ The ephemeral new uses attached to stable forms characterize the slaves’ appropriation of spaces, as in the transformation of the batey into a place for ritual dancing or the transformation of the bohío to store grains and animals or secretly hide their religion.

Epilogue: The Erasure of Memory

One of the characteristics of architecture’s communicative capacity is its ephemeral character. According to Frederic Jameson, “it is the extraordinary capacity of content itself to

¹⁷ Lefebvre, “The Production of Space,” 146.

¹⁸ Lefebvre, “The Production of Space,” 139, 142, 145.
undergo ceaseless and convulsive metamorphoses...\textsuperscript{19} Meaning thus shifts incessantly, and it is constructed by different people and at different times, with “a shifting hierarchy in which now one, now another meaning comes momentarily to the fore, by means of —and for the sake of—a particular action.”\textsuperscript{20} The Cuban sugar mills immortalized by Eduardo Laplante’s lithographs as a symbol of technological prowess, progress, and productiveness, had a transient meaning, and by the second half of the nineteenth century, they became symbols of slavery, colonialism and the backwardness of a country exploited by a few.

By October 1868, the first war for Cuban independence began in the eastern part of the country, led by Carlos Manuel Céspedes.\textsuperscript{21} This Ten Year War (1868-1878), as it was known, concentrated on this part of the island because it had failed to gain the support of the wealthy Creole planters of the western department (Havana, Matanzas, Cárdenas and Colón).\textsuperscript{22} Initially, the war was a conservative movement, essentially a nationalist revolt against Spain, without any interest in the abolition of slavery; and Céspedes’ first military politics prohibited attacks on properties, the burning of sugar mills, and slaves’ uprisings.\textsuperscript{23}

Nevertheless, as the war developed, slavery became an increasingly significant factor,


\textsuperscript{20} Lefebvre, “The Production of Space,” 140.

\textsuperscript{21} The first war for Cuban independence began in October 10, 1868, in the sugar mill La Demajagua in the eastern province of Manzanillo, where the owner Carlos Manuel de Céspedes freed his slaves and invited them to conquer independence for Cuba.

\textsuperscript{22} The Ten Year War grew out of the accumulated colonial resentment against the Spanish political and economic policies of the decades of prosperity before the 1860s, and it was exacerbated by the dismal failure of the reform commission of 1866-67. The revolutionary organization in eastern Cuba began in 1867, organized by the Creole middle sector, small slave holders, with the support of the free, urban black population. Franklin W. Knight, \textit{Slave Society in Cuba during the Nineteenth Century} (Madison: University of Wisconsin Press, 1970), 156, 158, 160.

\textsuperscript{23} Knight, \textit{Slave Society in Cuba}, 164-165.
resulting in an ideological clash between the conservative leaders (led by Céspedes) and the revolutionary sector (led by Francisco Maceo, Máximo Gómez, Félix Figueredo, Donato Mármol, etc.). By 1869, Céspedes had agreed to the burning of all the cane fields of the island, although still refusing to grant unconditional freedom to slaves. In a memo from October 18, 1869, he decreed:

The flames destroying the fortunes and the sugar districts with their path of fire and ruin, will become the lighthouses of our freedom. . . . If the cane fields destruction is not enough, we will bring the torch to the towns, villages and cities. . . . Cuba will be free, even if we have to burn every remnant of civilization from the point of Maisí to the cape of San Antonio until the Spanish government is expelled.

In May 1870, Federico Cavado, Jefe del Estado Mayor General, ordered to “destroy with fire, without delay, the houses of the main plantations, and the factories of the sugar mills that could be used by the enemy during the spring campaign.” The revolutionaries, led by Donato Mármol and Máximo Gómez, agreed to concentrate all their strength on burning the sugar mills: “Blood and fire to everything found till Colón and Matanzas” was their rallying cry.

When the revolutionaries failed to gain the support of the western Creole planters,

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24 These liberal leaders aspired to renovate all living aspects of the country, abolishing slavery and giving power to the people. Raúl Cepero Bonilla, Azúcar y abolición: Apuntes para una historia crítica del abolicionismo (Havana: Editorial Echevarría, 1960), 129.

25 The first constitutional convention met at Guaimaro in April 10, 1869, to formulate commonly accepted goals and methods of procedure. Céspedes decreed the “destruction of all the cane fields of the island.” Knight, Slave Society in Cuba, 165; Cepero Bonilla, Azúcar y abolición, 145.

26 Memorandum by Carlos M. Céspedes, October 18, 1869, in Antonio Pirala, Anales de la guerra de Cuba (Madrid: F. González Rojas, 1895), 642. See also Cepero Bonilla, Azúcar y abolición, 145. Translation mine.

27 Ignacio Agramonte, Ignacio to the Cámara de Representantes, May 21, 1870, in Eugenio Betancourt Agramonte, Ignacio Agramonte y la revolución Cubana (Havana: Dorrbecker, 1928), 399-400. See also Cepero Bonilla, Azúcar y abolición, 146. Translation mine.

28 Pirala, Anales de la guerra de Cuba, 288, 441. See also Cepero Bonilla, Azúcar y abolición, 131. Translation mine.
sugarmills came to be considered the “the enemy’s center of production” and “bastions of slavery and Spanish domination.” The planters, however, foresaw that to embrace revolution was to embrace the abolition of slavery and their consequent economic ruin. Thus, they decided to economically support the Spanish government, in return for the Metropolis’ guaranteed protection of their properties and slaves. A community of interest and a strong bond was thus established, between the wealthy Creole planters and the Spanish Peninsulares. Sugar mills became symbols of Spain rather than Cuba, and the war would not be possible without burning and destroying them.

By 1872, Carlos Manuel Céspedes (first president of the Republic) moved toward a more radical policy involving total abolition. After several useless attempts to invade the western department, in 1875 Máximo Gómez, the man of the torch, implacable in the destruction of properties, succeeded in entering the Villas, and burning 83 sugar mills in just 46 days. As he ordered his officers,

The priority will be the destruction of the plantations that supply benefits to the enemy, mainly the sugar mills, with no suspension of this order no matter the financial propositions made by the planters . . .


30 Artisans and working class were the ones who economically financed the revolution (not the planters). Cepero Bonilla, Azúcar y abolición, 131, 150-151; Knight, Slave Society in Cuba, 157.

31 Knight, Slave Society in Cuba, 167.

32 The failure of the 1875 western invasion initiated the breakdown of the revolution. Benigno Souza y Rodríguez, Máximo Gómez y las invasiones del 75 y del 95 (Havana: Editorial Minerva, 1932), 79, quoted in Cepero Bonilla, Azúcar y abolición, 209. See also Cepero Bonilla, Azúcar y abolición, 146.

33 Máximo Gómez to Cecilio González, quoted in Cepero Bonilla, Azúcar y abolición, 208-209. Translation mine.
The sugar mills established coexistence was not based on equal conditions but on a brutal state of power-submission that implied a relation of servitude, subjugation, and punishment, not compatible with the free society envisioned by the revolutionaries.\textsuperscript{34} Thus, the destruction of sugar mills, as a form of political violence, responded to the need to destroy an existential quality and spatiality that was in contradiction to the one imaged by Revolutionary leaders.

This represented a drastic change in the “meaning” of the sugar mill as a symbol. From being an allegory of order, progress, and modernity, of the Cuban people and their industrial enterprises, as represented by Eduardo Laplante and described by Justo Germán Cantero in the 1857 book \textit{Los Ingenios}, twenty years later sugar mills came to be regarded as symbols of slavery, Spanishness and colonialism by the revolutionary armies and leaders. From representing innovation and leading-edge technology, they became to be seen as the backwardness of a country still dependent on slave labor and based on social inequality and servitude. In the end, sugar mills and all they represented—Creole power and slavery—were not attuned to the new Cuban Republic and its foundational ideals and principles.

Even though the Ten Year War “certainly severely damaged ill-protected sugar plantations,” it never touched the high-yielding sugar mills of the Matanzas region.\textsuperscript{35} However,

\textsuperscript{34} See Martin Coward, “Against Anthropocentrism: The Destruction of the Built Environment as a Distinct Form of Political Violence,” \textit{Review of International Studies} 32, no. 3 (July 2006), 431.

\textsuperscript{35} In Trinidad, the US consortium Atkins-Havenmeyer arrived in the 1890s, at which time only four mills remained in the region: Buena Vista and Las Bocas, under the name “Meyer Thode & Co.;” the Cañamabo owned by William Schmidt; and the Manaca Iznaga, owned by Sánchez Iznaga family, the last of the old local sugar planters. In 1895, the first year of José Martí’s war, these four sugar mills were demolished and incorporated into the sugarcane colonies of Atkins-Havenmeyer. Roberto López Bastida, Nancy Benítez Vázquez, Lizbeth Chaviano Pérez, and Victor Echenagusia Peña, \textit{Trinidad y el Valle de los Ingenios: Guía de arquitectura, An Architectural Guide} (Trinidad, Cuba: Asamblea Municipal del Poder Popular de Trinidad; Seville: Junta de Andalucía, Consejería de Obras Públicas y
a series of adverse economic and political factors such as the fall in sugar prices and the increase of competition in the world market, along with the abolition of slavery, severely affected the sugar industry at the turn of the century. International competition created great pressure to increase labor costs and incorporate new technologies, which required an amount of capital not readily available to Cuban sugar planters, who had to sell their properties to foreign trading companies, especially American corporations. After the brief Spanish-American War, the island was occupied by the United States in 1899, and since that year, American investors began to buy large tracts of land and a succession of sugar mills. They developed central factories (centrales), which in scale, operation, and structure differed substantially from the previous nineteenth-century sugar mills owned by Cuban planters. During this new stage of expansion, old smaller mills were transformed into agricultural colonies and consolidated into a larger central azucarero, a productive giant equipped with the most modern technology. The process of centralization and concentration of sugar production in the last decade of the nineteenth century transformed Cuban territory into cane field subsidiaries of sugar industries of great productive capacity, with the consequent gradual disappearance of the old sugar

Transparencias, Dirección General de Arquitectura y Vivienda; Madrid: Agencia Española de Cooperación Internacional, 2003), 60.

36 Slavery was abolished in Cuba in 1880. Nevertheless, it persisted until 1886.


38 The centrales (central factories or “integrated sugar mills”) consisted of gigantic productive units housed in buildings with iron structure and metallic siding and roofing, with several large chimneys, usually the focal point of a rail network that traversed the cane fields. Préstamo, Menocal and Shaw, “The Architecture of American Sugar Mills,” 65-66.
plantations studied in this dissertation. The various sugar mills examined in this research had different and particular stories after the decade of 1850. Many disappeared or were abandoned or dismantled by their ruined owners; others changed proprietors and modified more than once their installations and technology to adapt to the innovations and requirements of the epoch.³⁹ Years later, after the Cuban Revolution in 1959, the government expropriated all the sugar mills (centrales) that remained operational and ended the exportation of sugar to the United States of America, until that year the main market for Cuban sugar.⁴⁰ During the cold war, Cuba's sugar exports were bought with subsidies from the Soviet Union until its collapse in the 1990s, an event that had a negative impact on the Cuban sugar industry and the economy of the whole country.⁴¹ Two thirds of the sugar mills in Cuba closed. From the 156 that were active by that date, only 71 centrales remained producing sugar (and 14 produced honey and alcohol). The sugar sector has been unable to recover ever since.


⁴⁰ Upon acquiring the sugar mills, the Revolutionary government changed their names, using epithets that carried a revolutionary message. Thus, Amistad became Amistad con los Pueblos; Habana was Habana Libre; El Progreso became José Smith Comas; Tinguaro was named Sergio González; Álava was México and Trinidad became FNTA, among many others. However, the political strategy of the Revolutionary government was, from the beginning, to encourage agricultural diversity, reducing the dependence on sugar monoculture. Nevertheless, the leadership of the sugar industry in Cuba’s economy was only seriously threatened in the 1980s, when the government decided to intensively develop tourism, the pharmaceutical industry and biotechnology. García Mora and Santamaría García, "Donde cristaliza la esperanza,” 79; EcuRed, “Industria azucarera cubana,” (accessed August, 2015), http://www.ecured.cu/index.php/Industria_azucarera_cubana.

According to Lefebvre, “Monumentality transcends death.” Nineteenth-century Cuban sugar mills are still there, either in ruins or lithographic images, remnants of a society divided by race, with one sector proud of their technological achievements and social status, and the other engaged in a constant struggle to preserve their culture and resist subjugation. The images of Eduardo Laplante have no traces of violence or negativity. As Lefebvre states, “the monumental work erases them and replaces them with a tranquil power and certitude. . . . Thus the ‘mortal’ moment (or component) of the sign is temporarily abolished in monumental space.” The extant ruins, on the other hand, scattered and mutilated, do whisper about the violence, the death, and the injustices performed in its spaces.

Lefebvre, “The Production of Space,” 139.

Lefebvre, “The Production of Space,” 140.
Archives

• Archivo Nacional de Cuba (ANC)
  o Fondo de Mapas y Planos (FMP)
  o Fondo Escribanía de Portocarrero

• Archivo del Consejo Nacional de Patrimonio Cultural (ACNPC)
  o Tarafa Collection (TC)

Museum Collections

• Museo de Arte Colonial, Havana, Cuba
• Museo de Arquitectura Colonial, Havana, Cuba
• Museo Casa de África, Havana, Cuba
• Museo de Guanabacoa, Havana, Cuba
• Museo Nacional de Bellas Artes, Havana, Cuba
• Museo de la Ruta del Esclavo, Matanzas, Cuba
• Museo del Ingenio Alava, Cárdenas, Cuba
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